SEE FOLLOWING NOTE

VOIR NOTE CI-APRÈS

PARTS OF THE ORIGINAL DOCUMENT ARE OF POOR REPRODUCTIVE QUALITY.

MICROMEDIA LIMITED HAS ATTEMPTED TO PRODUCE THE BEST POSSIBLE COPY.

CERTAINES PARTIES DU DOCUMENT ORIGINAL SONT DE PIÈTRE QUALITÈ DE REPRODUCTION.

MICROMEDIA LTEE A ESSAYEE DE PROCURER LE MEILLEUR EXEMPLAIRE POSSIBLE.

Manitoba Health

Dental Health

1987 ANNUAL REPORT

OF

FLUORIDATED WATER SUPPLIES

IN

MANITOBA

Manitoba
Health

MG 14532

1987 ANNUAL REPORT

OF

FLUORIDATED WATER SUPPLIES

IN

MANITOBA

Prepared By:

Jim Senka, B.Sc.
Manitoba Health - Dental Health

TABLE OF CONTENTS

PAGE

MINISTERIAL STATEMENT..... 1

INTRODUCTION..... 2

TABLE I "FLUORIDATED WATER SUPPLIES IN MANITOBA"..... 4

DISCUSSION..... 6

APPENDIX "A" "EXPLANATION OF FLUORIDATION CONTROL DATA".... 11

APPENDIX "B" "YEAR-END SUMMARIES FOR MANITOBA WATER SERVICES BOARD TREATMENT PLANTS"

COVERING LETTER TO ERV GRIFFIN..... 14
ALTONA..... 16
BALDUR..... 18
CRANBERRY PORTAGE..... 20
DELORAINE..... 22
ERICKSON..... 24
HAMIOTA..... 26
LAC DU BONNET..... 28
MANITOU..... 30
MCCREARY..... 32
PILOT MOUND..... 34
RED RIVER REGIONAL WATER TREATMENT PLANT..... 36
RESTON..... 38
ROSSBURN..... 40
RUSSELL..... 42
WINKLER..... 44

APPENDIX "C" "YEAR-END SUMMARIES FOR COMMUNITY OWNED TREATMENT PLANTS"

BIRTLE..... 47
BOISSEVAIN..... 49
BRANDON..... 51
CARMAN..... 53
DAUPHIN..... 55
GILLAM..... 57
GIMLI..... 59
GLADSTONE..... 61
GYPSUMVILLE..... 109
HARTNEY..... 63
KILLARNEY..... 65
MACGREGOR..... 67
MELITA..... 69
MINNEDOSA..... 71
MORDEN..... 73

1987 ANNUAL REPORT

OF

FLUORIDATED WATER SUPPLIES

IN

MANITOBA

Prepared By:

Jim Senka, B.Sc.
Manitoba Health - Dental Health

TABLE OF CONTENTS

PAGE

MINISTERIAL STATEMENT..... 1

INTRODUCTION..... 2

TABLE I "FLUORIDATED WATER SUPPLIES IN MANITOBA"..... 4

DISCUSSION..... 6

APPENDIX "A" "EXPLANATION OF FLUORIDATION CONTROL DATA".... 11

APPENDIX "B" "YEAR-END SUMMARIES FOR MANITOBA WATER SERVICES BOARD TREATMENT PLANTS"

COVERING LETTER TO ERV GRIFFIN..... 14
ALTONA..... 16
BALDUR..... 18
CRANBERRY PORTAGE..... 20
DELORAINE..... 22
ERICKSON..... 24
HAMIOTA..... 26
LAC DU BONNET..... 28
MANITOU..... 30
MCCREARY..... 32
PILOT MOUND..... 34
RED RIVER REGIONAL WATER TREATMENT PLANT..... 36
RESTON..... 38
ROSSBURN..... 40
RUSSELL..... 42
WINKLER..... 44

APPENDIX "C" "YEAR-END SUMMARIES FOR COMMUNITY OWNED TREATMENT PLANTS"

BIRTLE..... 47
BOISSEVAIN..... 49
BRANDON..... 51
CARMAN..... 53
DAUPHIN..... 55
GILLAM..... 57
GIMLI..... 59
GLADSTONE..... 61
GYPSUMVILLE..... 109
HARTNEY..... 63
KILLARNEY..... 65
MACGREGOR..... 67
MELITA..... 69
MINNEDOSA..... 71
MORDEN..... 73

NEEPAWA..... 75
PINAWA..... 77
PORTAGE LA PRAIRIE..... 79
RIVERS..... 81
ROBLIN..... 83
SHOAL LAKE..... 85
SOURIS..... 87
STE. ROSE DU LAC..... 89
STEINBACH..... 91
SWAN RIVER..... 93
THE PAS..... 95
TREHERNE..... 97
VIRDEN..... 99
GIMLI INDUSTRIAL PARK.....102
WINNIPEG.....104
CFS SHILO.....107

APPENDIX "D"-"1987 FLUORIDE LEVELS"

Manitoba

Minister of Health
Minister Responsible for Sport

7th Floor
175 Hargrave Street
Winnipeg, Manitoba, CANADA
R3C 3R8

November 30, 1987

MINISTERIAL STATEMENT

The year 1988 marks the thirty-fifth year since the first Manitoba community began to adjust the fluoride level of its water supply. At present, over 95% of the population of Manitoba receiving water from a public system consume the proper amounts of fluoride in their water.

Tooth decay is one of Manitoba's greatest health problems in terms of persistence and the number of people affected. Prevention is preferable to treatment of any disease in that it saves not only considerable time and suffering, but also expense.

Adjustment of fluoride levels in community water supplies has been clearly proven to be the safest and most cost effective means of preventing and controlling dental decay.

Manitoba Health actively promotes and strongly recommends the upward adjustment of this natural trace element to the level which will provide the maximum health benefit to Manitobans.

Wilson W. Parasiuk
Minister of Health

INTRODUCTION

In 1987, forty-eight Manitoba communities, representing over 729,965 people were receiving artificially fluoridated drinking water from forty-three water treatment plants.

In addition, one Provincial and one Federal water works facilities practiced artificial fluoridation. The Canadian Forces Base at Gypsumville was closed in July which explains the reduction in Federal operations from 1986.

This report consists of a summary of how the program performed, a brief description of improvements and problem areas along with the tabulated results from the bi-weekly sampling program and covering letters which were sent to the individual water plant owners. In a few cases, a suggestion was made in he covering letters regarding how the operation of the fluoridation equipment could be improved.

Five water treatment plants serving approximately five thousand residents successfully installed and began operating fluoridation equipment with the assistance of Manitoba Dental Health in 1987.

Particularily noteworthy in 1987 was a number of operational meetings between Manitoba Health and the City of Winnipeg Waterworks Division resulting in a positive exchange of ideas for both agencies.

Thirty-eight of the forty-three treatment plants were visited/inspected at least once during 1987. All community administrative staff, water plant operators, as well as the Chief Public Health Engineer, Water Services Board Staff and Environmental Control (particularily the W.M. Ward Technical Services Laboratories Staff) were co-operative and helpful.

FLUORIDATING MANITOBA WATER SERVICES BOARD FACILITIES

% of samples containing fluoride within the recommended range

PLANT	YEAR		
	1985	1986	1987
Manitou	100	100	100
McCreary	100	100	100
Reston	100	100	100
Red River Regional	-	-	100
Russell	92	100	100
Winkler	100	100	92
Lac du Bonnet	53	91	96
Cranberry Portage	90	80	100
Winkler	100	100	92
Pilot Mound	88	85	96
Altona	40	85	(58)*
Baldur	96	100	80
Deloraine	92	85	89
Erickson	92	83	77
Hamiota	88	83	62
Rossburn	83	67	72

*Samples from January to May represents a blend of water including non-fluoridated water from Letellier. Letellier began fluoridating in June.

TABLE I

PROVINCE OF MANITOBA

DEPARTMENT OF HEALTH

COMMUNITIES WITH FLUORIDATED WATER SUPPLIES AS OF DECEMBER 31, 1997

MUNICIPALITY	STATUS	POPULATION 1986 CENSUS	DATES APPROVAL	DATES ON-LINE	BACKGROUND LEVEL	TYPE OF FEED	TEST KIT	AVG (F) (1997)	WATER SOURCE	UNITS W.F.
ALTONA	Town	2,968	66 09 19	66 11 04	0.29	HSiF Acid	Nil	1.0	RIVER	SWSB
BALDUR	U. Vill.	344	66 09 19	67 11 15	0.22	NaF 3%	Ha	1.0	WELL	SWSB
BIRTLE	Town	1,015		87 11 07	0.26	NaF 4%	Ha C	1.2	WELL	TOWN
BOISSEVAIN	Town	1,572	56 11 05	57 01 11	0.20	NaF 2.3%	Ha F	1.1	(SI)	TOWN
BRANDON	City	38,700	53 08 11	55 03 08	0.20	Na SiF Dry	Ha	1.2	RIVER	CITY
CARMAN	Town	2,500	65 06 22	65 11 03	0.26	NaF 1.8%	Ha	1.1	RIVER	TOWN
CRANBERRY PORTAGE	U.V.D.	891	93 03 19	83 12 14	L0.10	NaF 2%	Ha C	1.1	SPRING LAKE	TOWN SWSB
DAUPHIN	Town	8,875	57 08 02	80 05 03	0.14	HSiF Acid	Ha	1.0	(AW)	TOWN
DELORAINE	Town	1,134	67 07 28	68 09 24	0.16	NaF 3%	Ha	1.1	(SI)	SWSB
ERICKSON	Village	565	72 10 12	73 05 04	0.23	NaF 1.5%	Ha	1.0	WELL	SWSB
GILLAM	L.G.D.	1,909	74 08 14	87 01 03	L0.10	NaF	Ha	1.0	RIVER	LGD
GIMLI	Town	1,681	63 08 01	63 12 23	0.45	NaF 3%	Ha Ex	1.1	(AW)	TOWN
GLADSTONE	Town	951	71 04 19	76 09 23	0.22	NaF 4%	Ha	1.2	RIVER	TOWN
GNADENFELD	Unic. Village	157		76 11 12	0.29	HSiF Acid	Nil		RIVER	SWSB
GRETNA	Village	503	66 09 19	66 11 04	0.29	HSiF Acid	Nil		RIVER	SWSB
HAMIOTA	Village	816	70 05 27	70 08 17	0.29	NaF 1%	Ha	1.1	WELL	SWSB
HARTNEY	Town	523	64 01 02	64 12 16	0.20	NaF 1%	Ha	1.1	WELL	TOWN
KILLARNEY	Town	2,318	60 10 12	60 10 25	0.19	NaF 4%	Ha	1.3	LAKE	TOWN
LAC DU BONNET	Town	1,021		85 09	L0.10	NaF	Ha	1.3	WELL	SWSB
LETELLIER	Town			87 06 20	0.17	HSiF Acid	Ha		RIVER	SWSB
MacGREGOR	Village	854	65 06 03	69 04 16	0.19	NaF 3%	Ha	1.2	RIVER	VILLAGE
McCREARY	Village	578	69 08 28	69 11 18	0.24	NaF 3%	Ha	1.2	WELL	SWSB
MANITOU	Village	856	64 01 21	65 05 13	0.19	NaF 3%	Ha	1.2	(SI)	SWSB
MELITA	Town	1,239		87 02 14	0.18	NaF 4%	Ha	1.1	WELL	TOWN
MINNEDOSA	Town	2,520	60 01 25	86 04	0.28	NaF 3%	Ha F	1.1	WELL	TOWN
MORDEN	Town	5,004	68 09 09	69 11 17	0.32	NaF 4%	Ha F	1.1	LAKE	TOWN
NEEPAWA	Town	3,314	63 06 10	63 07 10	0.24	Na SiF Dry	Ha	1.1	LAKE	TOWN
NEW BERGTHAL	Unic. Village	127		76 11 12	0.29	HSiF Acid	Nil	-	RIVER	SWSB
PILOT MOUND	Village	819	68 10 25	70 12 21	0.21	NaF 3%	Ha	1.2	(SI)	SWSB
PINAWA	L.G.D.	2,078	63 11 26	64 01 14	0.08	NaSiF Dry	Ha	1.1	RIVER	LGD
PORTAGE LA PRAIRIE	City	13,392	57 12 20	58 01 13	0.20	Na SiF Dry	S.I.E.	1.2	RIVER	CITY
RESTON	Unic. Village	589	67 09 13	68 11 26	0.13	NaF 1.5%	Ha	1.2	WELL	SWSB
RIVERS	Town	1,157	68 06 07	86 10 27	0.18	NaF 4%	Ha	1.3	WELL	TOWN
ROBLIN	Town	1,913	69 04 29	70 06 01	0.26	NaF 4%	Ha	1.0	WELL	TOWN
ROSSBURN	Village	664		77 12 05	L0.10	NaF 1.5%	Ha	1.2	WELL	SWSB
RUSSELL	Town	1,669	65 09 10	67 03 01	0.21	NaF 2%	Ha	1.2	WELL	SWSB
STE. ROSE	Village	1,112	69 11 25	87 10 24	0.12	NaF 4%	Ha	1.1	WELL	SWSB
SHOAL LAKE	Village	832	68 08 26	87 03 28	0.27	NaF 4%	Ha	1.1	WELL	VILLAGE
SOMMERFELD	Unic. Village	94		76 11 12	0.29		Nil		RIVER	SWSB
SOURIS	Town	1,751	62 07 11	63 11 05	0.19	NaF 3%	Ha C/P	1.2	RIVER	SWSB
STEINBACH	Town	7,473	59 11 04	60 05 23	0.39	NaF 3%	Ha	1.2	WELL	TOWN
SWAN RIVER	Town	3,946	80 10 07	82 08 08	0.20	NaF 3%	Ha	1.1	WELL	TOWN
THE PAS	Town	6,283	64 07 20	64 07 23	0.25	Na SiF Dry	Ha C/P	1.2	RIVER	TOWN
TREHERNE	Village	762	72 11 10	73 06 11	0.32	NaF 4%	Ha F	1.3	(AW)	VILLAGE
VIRDEN	Town	3,054	71 01 11	71 04 09	0.44	NaF 4%	Ha C	1.1	WELL	TOWN
WINKLER	Town	5,926	64 01 21	64 06 24	0.26	NaF 3%	Ha	1.1	WELL	SWSB
WINNIPEG	City	594,551	56 07 20	56 12 28	0.10	H SiF Acid	S.I.E.	1.0	LAKE	CITY

* Not included are rural families which have water from the community supply.

MUNICIPALITY	STATUS	POPULATION 1981 CENSUS	DATES APPROVAL	ON-LINE	BACKGROUND LEVEL	TYPE OF FEED	TEST KIT
PROVINCIAL							
GIMLI	Ind. Park	600		69 04 19	0.47	NaF 4%	Hn
FEDERAL							
* GYPSUMVILLE	C.F.S.	330		69 09 29	0.15	NaF 4%	Hn
SHILO	C.F.S.	3,200		69 01 14	0.12	NaF 4%	T
TOTAL		689,581					

Notes:
The Communities of Altona, Gretna, Gnadenfeld, New Bergthal and Sommerfeld are served by fluoridated water piped in from Neche, North Dakota. This water, which is fluoridated at the Neche water treatment plant, and monitored for fluoride content in Altona, is provided to the above communities under the terms of an agreement between the Manitoba Water Services Board and the City of Neche.

The Red River Regional Water Treatment Plant at Letellier, Manitoba which was commissioned in August, 1986 is also capable of supplying these communities. It is expected that the fluoride feed system will be installed in 1987. These communities will receive a blend of water from these two sources until 1990 when a contract with Neche expires.

* These treatment plants are owned and operated by Manitoba Water Services Board.

L means Less Than

HaF:	Hach Filterphotometer	T:	Taylor
Hs:	Hach Spectrophotometer	S.I.E.:	Specific Ion Electrode
Ha Ex:	Hach Expanded Scale pH/Fluoride Meter (Electrode method)	Ha C F:	Hach Colorimeter/pH Meter
		Ha C:	Hach DR-100 Colorimeter

*MWSB - Manitoba Water Services Board
**LGD - Local Government District
(SI) - Surface Impoundment creek
(AW) - Artesian Well

In 1987 these towns receive approximately 50% of their water supply from the Red River Regional Water Treatment Plant in Letellier which began fluoridating in June 1987.

DISCUSSION

1. Participation in the Program

A total of forty eight Manitoba communities, representing over 729,965 people were receiving artificially fluoridated water by the end of 1987. This represents 95 % of the total population served by a central piped waterworks system. Not included in the above figures are rural residents who consume water hauled from a fluoridated community water supply.

Manitoba Dental Health continued to offer financial support to Manitoba communities wishing to install fluoridation systems on a first-time basis. The waterworks operations were evaluated, systems designed and equipment specified. Once the systems were purchased, assistance in installation, start up and operation was provided by Manitoba Dental health Technical Staff.

2. New Systems Installed

The communities of Birtle, Letellier, Melita, Ste. Rose du Lac and Shoal Lake installed fluoride feed equipment with Manitoba Dental Health assistance and are now successfully operating and participating in the Monitoring Program (see #3 below).

3. Monitoring Program

The operation of all artificially fluoridated water supplies was monitored by the Manitoba Dental Health in 1987. This program consists of the submission of a bi-weekly composite sample along with a record of feed data and daily readings by the water plant operator. Samples were analized by the W.M. Ward Technical Services Laboratory and all data examined and tabulated by Dental Health technical staff to assist in resolving any problems. Visits were productive and waterworks staff were most appreciative of this assistance. Water plants were also visited on a routine basis for the purpose of preventive maintenance and perpitrating communications in general.

A total of 1,107 fourteen-day composite samples and accompanying report sheets were submitted by the water treatment plant operators for fluoride analysis.

4. Performance of the Monitoring and Surveillance Programs

Of the 1,107 bi-weekly composite samples which were submitted by water treatment plant operators, 1,003, or 91% of these samples contained fluoride in levels within the operating range of 1.0 to 1.4 mg/l. Of the samples which were outside the operating range, seventy-eight were slightly high, or not representative. Of the out-of-range samples, 92, or 88% were deemed either rectified or non-chronic.

The above data is taken from Apendix "B" on page .

5. Three Year Performance of the Monitoring/Surveillance Program

Performance of the program based on the number of bi-weekly composite samples with fluoride concentration within the operating range over the past three years is summarized in Table II below:

TABLE I

Total number of water plants surveyed - 41*

	Number of Water Plants	% of total
Improved performance	20	49%
Diminished performance	6	15%
= Net improvement	14	34%
Remained at 100% performance	8	20%
Diminished performance but results still acceptable	7	17%

* Not included in the above data are:

- The water treatment plants at Melita, Shoal Lake, Birtle, Ste. Rose du Lac and Letellier, all of which have begun fluoridating within the past year

- Water Treatment facilities of Canadian Forces Base at Gypsumville which has closed in 1987

6. Areas of Improved Operation

The twenty two water treatment plants listed below showed operational improvements to varying degrees. This was illustrated by the number of bi-weekly composite samples which contained fluoride within the recommended operating range of 1.0 to 1.4 mg/l. This improvement was the result of in-plant training, purchase of equipment as recommended and a general increase in contact between Dental Health Technical Staff and the water treatment plant operators.

Altona - Water is currently being supplied to Altona and the surrounding area from Neche, North Dakota, which fluoridates, and the Red River Regional Water Treatment Plant in Letellier which began adding fluoride in June. Results from samples taken in Altona have all been within the operating range since June.

Boissevain - Twenty one out of twenty five bi-week by composite samples tested for fluoride within the operating range of 1.0 - 1.4 mg/l. This represents a district improvement over 1986 when only sixteen samples fell within the operating range. The fact that this equipment has been operating since the early 1950's is a tribute to the operators.

Cranberry Portage - All of the samples submitted contained fluoride within the operating range. This is also a district improvement over 1986 when only sixteen of the samples fell within the operating range.

Dauphin - With the exception of two periods when the feed rate was intentionally reduced to conserve chemical during a supply shortage, all samples fell within the operating range. Installation of an automatically - paced hydro-fluosilicic acid feed system is the reason for this dramatic improvement over 1986 when only 20% of the samples fell within the operating range.

Gladstone, Lac du Bonnet, Killarney, MacGregor, Pilot Mound, Pinawa, Portage La Prairie, Russell, Treherne, Virden and CFB Shilo - Improved fluoride levels in the above communities can, in general, be attributed to in-plant training of, and regular contact with the water plant operators.

Morden - An improvement in fluoride levels from 81% within the operating range in 1986 to 96% within the operating range is due to the purchase of some new equipment (pump and water softener) as recommended by this department.

Rivers - A number of problems with the Rivers fluoridation system were rectified during several visits. Results went from 20% of samples within the operating range to 62% within the operating range. There are still a few problems that are expected to be solved in 1988.

Deloraine, Neepawa, Rossburn, Winnipeg -Fluoride levels in samples from these communities were improved in a less dramatic sense since the previous years' results was also considered good.

7. Plants continuing to perform at 100% efficiency

The water treatment plants where 100% of the samples contained fluoride within the operating range over a period of two years were: Brandon, Manitou, McCreary, Portage la Prairie, Reston, Russell, Souris, Steinbach, The Pas, Gimli Industrial Park and Winnipeg.

8. Plants with diminished efficiency

The following water treatment plants having fewer bi-weekly composite samples containing the operating level of fluoride over the previous year were: Baldur, Carman, Erickson, Gimli, Hamiota, Hartney, Minnedosa, Roblin, Swan River and Winkler. These plants are targeted for supplemental in-plant training and technical assistance in 1988.

It should be noted that in-plant training and ongoing technical assistance is considered a continuing procedure due to new water plant personnel, development of new equipment and safety procedures, alterations to water treatment plants, and installation of new systems.

Twenty-five new operators were trained in the following fifteen plants in 1987: Birtle, Gillam, Gladstone, Hamiota, Melita, Minnedosa, Pilot Mound, Rivers, Roblin, Rossburn, St. Rose du Lac, Shoal Lake, Swan River and Virden. Further assistance will be provided for these operators in 1988.

9. IMPROVEMENT OF FLUORIDATION EQUIPMENT

New equipment was purchased and installed at the recommendation of Dental Health Technical staff in the communities of Dauphin, Morden, Gimli, and Gillam. This resulted in improved performance in all cases.

Fluoride feeders were calibrated in the following twelve communities: Birtle, Erickson, Hamiota, Melita, Morden, Pilot Mound, Letellier, Rivers, Roblin, Ste. Rose du Lac, Shoal Lake and Treherne. Easy-to-read Graphs and feed charts were constructed for and are now used by the operators to facilitate more accurate fluoride feeder adjustments.

10. Promotion

Increased promotion of fluoridation by Dental Health staff at the community level resulted in the installation of fluoridation systems in five communities in 1987 (See #2 above).

Promotion included initial contacts in non-fluoridation communities, presentations to community councils (both public and in-camera), and interest groups. Newspaper articles promoting fluoridation and announcing systems' start-up, along with congratulatory letters also originated from this department.

In 1907 a public statement was issued from the office of the Minister of Health endorsing public water fluoridation as the primary means of reducing tooth decay which is deemed to be one of Manitoba's greatest health problems in terms of persistence and the number of people affected (See page above.

Several audio-visual resources from out-of-province agencies were obtained for the promotion of fluoridation.

Increased contact with the Communications Directorate has led to move involvement in the promotion of fluoridation.

11. Support Services

Manitoba Health/Dental Health wishes to acknowledge the support received from other groups and governmental departments which provided assistance with the performance of the fluoridation program:

i. The Technical Services Laboratory for conducting the regular fluoride analyses and shipping reagents, sample bottles and fluoride results to participating communities in addition to compiling data for a fluoride level survey.

ii. The Manitoba Water Services Board for the promotion of fluoridation in new water treatment plants.

iii. Environmental Health Services, Manitoba Health for engineering consultation and advice with administration, design, installation and troubleshooting in-plant operational malfunctions.

iv. Department of Environment for technical assistance on the past performance of the program, loan of equipment and fluoride data from some communities.

v. Administrative staff, water councillors and especially water treatment plant operators in all communities with water fluoridation equipment. Their friendly co-operation and receptiveness to assistance proferred by Dental Health technical staff has resulted in a better service to residents of the communities participating in The Program.

APPENDIX "A"

EXPLANATION OF FLUORIDATION CONTROL DATA

EXPLANATION OF FLUORIDATION CONTROL DATA

"Tech. Serv. Composite" - Fluoride analysis conducted by the Manitoba Government Technical Services Laboratory on the bi-weekly composite sample submitted by the water plant operator. This composite sample represents a 2-week sampling period, comprised of 14 samples of approximately 65 ml each collected by the water treatment plant operator. (14 day composite is about one litre of treated water)

"Operator Composite" - Fluoride reading reported by the water treatment plant operator on the bi-weekly sample before it is sent to the Technical Services Laboratory.

"Average Daily" - Arithmetic average of the 14 daily fluoride tests conducted by the water treatment plant operator.

"Calculated Dosage" - The fluoride dosage of the water supply, calculated from the weight of chemical added and the amount of water treated.

"Natural Content" - The amount of fluoride in the water before treatment.

"Theoretical Content" - Calculated Dosage plus Natural Content.

APPENDIX "B"

YEAR END SUMMARIES FOR

MANITOBA WATER SERVICES BOARD TREATMENT PLANTS

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

Dear Mr. Erv Griffin:

RE: WATER FLUORIDATION AT MANITOBA SERVICES BOARD FACILITIES DURING 1987

The attached data sheets and accompanying year-end letters represent a summary of the year's fluoride adjustment for each participating Manitoba Water Services Board water treatment facility in 1987.

All fourteen water services board plants involved in the Fluoridation Program were visited at least once by myself during 1987. In general, the operators displayed a positive attitude toward assistance offered by this department. Three plants (McCreary, Reston and Russell) achieved perfect records (all submitted samples containing fluoride within the recommended range) for at least the second year in a row. Cranberry Portage, Manitou and the Red River Regional Water Treatment Plant in Letellier also achieved perfect records. In addition, the plants at Deloraine, Lac du bonnet, Pilot Mound and Russell showed some improvement over the previous year.

The attached table is meant to illustrate the performance of the plants with respect to fluoridation over a three year period.

Based on my observation, I wish to report that there are no major problems evident with fluoridating Manitoba Water Service Board Plants at this time.

...2

I would like to thank you and the Manitoba Water Services Board staff for being instrumental in promoting the valuable public health benefit of fluoridation in the communities of St. Jean and Winnipegosis. I would also like to acknowledge Mr. Dave Schwaluk, Mr. Vince Shih and Mr. Glen Newton for their support and promotion of fluoridation in other Manitoba communities.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Dave Schwaluk/Glen Newton/Vince Shih

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR ALTONA

The attached data sheet summarizes the 1987 Water Fluoridation Program for the Town of Altona.

Twenty-four of the required bi-weekly composite samples were submitted by the Water Works Superintendent, Mr. D. Klassen. Ten samples in the first half of the year contained fluoride in levels slightly below the recommended minimum. The lower levels were caused by the fact that the portion of the Altona water supply being received from the Red River Regional Water Treatment Plant in Letellier was not fluoridated. Fluoride levels have all been within the recommended limits of 1.0 - 1.4 mg/l since the fluoride feed system was commissioned in the Letellier plant. recommended range.

As long as the Town of Altona is receiving blended water from the Letellier and Neche, N.D. Water Treatment Plants, I would recommend that we continue to sample the Altona water supply. However, when they begin to receive close to 90% of the water from the Letellier plant, I would suggest a discontinuation of the Altona portion of the fluoride sampling program since the water is monitored in Letellier. If, on the other hand Altona wishes to continue to sample, they would be welcome to do so with our continued assistance.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
attach.
c.c. Mr. Cliff D'Heilly
Mr. Dick Klassen

FLUORIDATION CONTROL RECORD - 1987

LOCATION: ALTONA

FLUORIDATOR: W&T A-745 (Letellier)
Liquid Metronics-Model A-10 (Neche)

CHEMICAL: H2SiF6 (Fluosilicic Acid) 25%

OPERATOR: Dick Klassen (Altona)
Cliff D'Heilly (Neche)

TEST KIT: Hach Filterphotometer (NECHE)
Hach DR-3 Spectrophotometer (Letellier)

TELEPHONE: Office: 324-6633 324-6439

NATURAL FLUORIDE CONTENT: 0.29 - Neche
0.18 - Letellier

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	0.91					
Jan. 17 - Jan. 30	0.74					
Jan. 31 - Feb. 13	0.82					
Feb. 14 - Feb. 27	0.88					
Feb. 28 - Mar. 13	0.80					
Mar. 14 - Mar. 27	0.65					
Mar. 28 - Apr. 10	0.58					
Apr. 11 - Apr. 24	1.00					
Apr. 25 - May 8	0.88					
May 9 - May 22	0.78					
May 23 - Jun. 5	0.80					
Jun. 6 - Jun. 19	1.15					
Jun. 20 - Jul. 3	1.00					
Jul. 4 - Jul. 17	1.30					
Jul. 18 - Jul. 31	1.18					
Aug. 1 - Aug. 14	1.22					
Aug. 15 - Aug. 28	-					
Aug. 29 - Sep. 11	1.10					
Sep. 12 - Sep. 25	1.15					
Sep. 26 - Oct. 9	1.08					
Oct. 10 - Oct. 23	-					
Oct. 24 - Nov. 6	1.15					
Nov. 7 - Nov. 20	1.35					
Nov. 21 - Dec. 4	1.17					
Dec. 5 - Dec. 18	1.23					
Dec. 19 - Jan. 1/88	1.23					
AVERAGE	1.01					
RANGE	0.7 - 1.4					
% OUTSIDE LIMITS	42%					
NO. OF SAMPLES	24					

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR BALDUR

The attached data sheet summarizes the 1987 Water Fluoridation Program for the Town of Baldur.

All of the 26 required bi-weekly composite samples were submitted. Of these, 5, or 19% contained fluoride in concentrations outside the recommended range of 1.0 to 1.4 mg/l.

The Water Treatment Plant Operator, Mr. DeBaets has done a good job of maintaining the proper fluoride level in the Baldur water supply.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
attach.
c.c. Mr. Adolphe DeBaets

FLUORIDATION CONTROL RECORD - 1987

LOCATION: BALDUR

FLUORIDATOR: W&T A-588

CHEMICAL: NaF 3%

OPERATOR: Adolph DeBaets

TEST KIT: Hach Spectrophotometer

TELEPHONE: Res: 535-2480

NATURAL FLUORIDE CONTENT: 0.22

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.00	1.05	1.05	1.28	1.50	
Jan. 17 - Jan. 30	0.90	1.05	1.05	1.23	1.45	
Jan. 31 - Feb. 13	0.97	1.10	1.07	1.34	1.56	
Feb. 14 - Feb. 27	0.87	1.08	1.08	1.20	1.42	
Feb. 28 - Mar. 13	0.80	1.10	1.10	1.22	1.44	
Mar. 14 - Mar. 27	1.20	1.10	1.10	1.21	1.43	
Mar. 28 - Apr. 10	1.05	1.10	1.09	1.30	1.52	
Apr. 11 - Apr. 24	1.03	1.10	1.11	1.27	1.49	
Apr. 25 - May 8	0.96	1.10	1.10	1.25	1.47	
May 9 - May 22	1.10	1.10	1.09	1.22	1.44	
May 23 - Jun. 5	1.17	1.10	1.09	1.38	1.60	
Jun. 6 - Jun. 19	1.05	1.10	1.08	1.28	1.50	
Jun. 20 - Jul. 3	1.00	1.10	1.08	1.41	1.63	
Jul. 4 - Jul. 17	1.15	-	1.09	1.08	1.30	
Jul. 18 - Jul. 31	1.10	1.10	1.11	1.11	1.33	
Aug. 1 - Aug. 14	1.05	1.10	1.09	1.23	1.45	
Aug. 15 - Aug. 28	1.08	1.10	1.09	1.19	1.41	
Aug. 29 - Sep. 11	1.05	1.10	1.09	1.20	1.42	
Sep. 12 - Sep. 25	0.97	1.10	1.09	1.21	1.43	
Sep. 26 - Oct. 9	1.20	1.10	1.10	1.18	1.40	
Oct. 10 - Oct. 23	1.00	1.10	1.12	1.17	1.39	
Oct. 24 - Nov. 6	1.00	1.10	1.09	1.18	1.40	
Nov. 7 - Nov. 20	0.87	1.10	1.09	1.22	1.44	
Nov. 21 - Dec. 4	0.91	1.10	1.10	1.21	1.43	
Dec. 5 - Dec. 18	1.04	1.10	1.10	1.21	1.43	
Dec. 19 - Jan. 1/88	1.12	1.10	1.09	1.21	1.43	
AVERAGE	1.02	1.10	1.09	1.23	1.45	
RANGE	0.8 - 1.2	1.1	1.1	1.1 - 1.4	1.3-1.6	
% OUTSIDE LIMITS	19%					
NO. OF SAMPLES	26	25	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR CRANBERRY PORTAGE

The attached data sheet summarizes the 1987 Water Fluoridation Program for the U.V.D. of Cranberry Portage.

Twenty-four of the required 26 bi-weekly composite samples were submitted. All of these contained fluoride in concentration within the recommended range of 1.0 to 1.4 mg/l. This represents an improvement over the previous year when 20% of the samples contained fluoride in concentrations outside the recommended range.

Mr. Dixie Nagy, the Water Plant Operator is to be commended for having done an excellent job of maintaining the proper level of fluoride in the Cranberry Portage water supply.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Dixie Nagy

FLUORIDATION CONTROL RECORD - 1987

LOCATION: CRANBERRY PORTAGE

FLUORIDATOR: W&T Series 44-747 #LDP 7591

CHEMICAL: NaF 2%

OPERATOR: Mr. Dixie Nagy

TEST KIT: Hach DR-100 Colorimeter

TELEPHONE: Home: 472-3453 WTP: 472-3219

NATURAL FLUORIDE CONTENT: 0.10

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.08	1.15	1.11	0.76	0.86	
Jan. 17 - Jan. 30	1.10	1.10	1.14	0.74	0.84	
Jan. 31 - Feb. 13	1.10	1.10	1.16	0.72	0.82	
Feb. 14 - Feb. 27	1.10	1.12	1.15	0.70	0.80	
Feb. 28 - Mar. 13	1.10	1.08	1.12	0.69	0.79	
Mar. 14 - Mar. 27	1.01	1.15	1.12	0.71	0.81	
Mar. 28 - Apr. 10	1.10	1.06	1.08	0.76	0.86	
Apr. 11 - Apr. 24	1.07	1.13	1.08	0.71	0.81	
Apr. 25 - May 8	1.10	1.13	1.12	0.72	0.82	
May 9 - May 22	1.04	1.11	1.11	0.74	0.84	
May 23 - Jun. 5	1.05	1.11	1.12	0.73	0.83	
Jun. 6 - Jun. 19	1.10	1.16	1.10	0.71	0.81	
Jun. 20 - Jul. 3	1.03	1.13	1.10	0.68	0.78	
Jul. 4 - Jul. 17	1.05	1.15	1.10	0.84	0.94	
Jul. 18 - Jul. 31	-	1.09	1.15	0.78	0.88	Broken in transit
Aug. 1 - Aug. 14	1.13	1.18	1.15	0.71	0.81	
Aug. 15 - Aug. 28	1.06	1.09	1.06	0.86	0.96	
Aug. 29 - Sep. 11	1.15	1.20	1.15	0.83	0.93	
Sep. 12 - Sep. 25	1.14	1.11	1.22	0.72	0.82	
Sep. 26 - Oct. 9	1.00	1.20	1.18	0.74	0.84	
Oct. 10 - Oct. 23	1.03	1.10	1.12	0.67	0.77	
Oct. 24 - Nov. 6	1.00	1.10	1.09	0.72	0.82	
Nov. 7 - Nov. 20	0.98	1.03	1.04	0.86	0.96	
Nov. 21 - Dec. 4	-	0.90	0.92	0.76	0.86	Broken in transit
Dec. 5 - Dec. 18	1.00	1.09	1.11	0.77	0.87	
Dec. 19 - Jan. 1/88	1.00	1.22	1.14	0.81	0.91	
AVERAGE	1.06	1.12	1.11	0.75	0.85	
RANGE	1.0 - 1.2	0.9 - 1.2	0.9-1.2	0.7 - 0.9	0.8-1.0	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	24	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR DELORAINE

The attached data summarizes the 1987 Water Fluoridation Program for the Town of Deloraine.

All of the required 26 bi-weekly composite samples were submitted. Of these, 3, or 12% contained fluoride in concentration below the recommended range of 1.0 to 1.4 mg/l.

This is a slight improvement over 1986 indicating that the Water Plant Operator, Mr. Bill Arnold is doing a very good job of maintaining the proper level of fluoride in the Deloraine water supply.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Bill Arnold

FLUORIDATION CONTROL RECORD - 1987

LOCATION: DELORAINE

FLUORIDATOR: W&T A-745

CHEMICAL: NaF 3%

OPERATOR: Bill Arnold

TEST KIT: Hach Spectrophotometer

TELEPHONE: Plant: 747-2062

NATURAL FLUORIDE CONTENT: 0.16

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.00	1.00	1.15	0.82	0.98	
Jan. 17 - Jan. 30	1.05	1.20	1.14	0.95	1.11	
Jan. 31 - Feb. 13	0.97	1.10	1.17	1.63	1.79	
Feb. 14 - Feb. 27	1.07	-	1.18	1.21	1.37	
Feb. 28 - Mar. 13	0.95	1.10	1.18	1.30	1.46	
Mar. 14 - Mar. 27	1.10	1.20	1.20	1.01	1.17	
Mar. 28 - Apr. 10	1.10	1.15	1.20	0.57	0.73	
Apr. 11 - Apr. 24	0.93	1.20	1.20	1.00	1.16	
Apr. 25 - May 8	1.05	1.20	1.20	1.05	1.21	
May 9 - May 22	1.04	1.10	1.15	1.02	1.18	
May 23 - Jun. 5	1.05	1.20	1.20	0.97	1.13	
Jun. 6 - Jun. 19	1.22	1.20	1.19	0.81	0.97	
Jun. 20 - Jul. 3	1.45	1.05	1.11	1.31	1.47	
Jul. 4 - Jul. 17	1.00	1.05	1.14	1.12	1.28	
Jul. 18 - Jul. 31	1.10	1.10	1.12	1.91	2.07	
Aug. 1 - Aug. 14	1.13	1.20	1.20	1.08	1.24	
Aug. 15 - Aug. 28	0.87	1.00	1.00	2.06	2.22	
Aug. 29 - Sep. 11	1.10	1.20	1.20	1.73	1.89	
Sep. 12 - Sep. 25	1.25	1.20	1.18	1.74	1.90	
Sep. 26 - Oct. 9	1.08	1.20	1.20	1.33	1.49	
Oct. 10 - Oct. 23	0.97	1.15	1.15	1.03	1.19	
Oct. 24 - Nov. 6	1.14	1.20	1.16	1.28	1.44	
Nov. 7 - Nov. 20	1.16	1.20	1.20	1.07	1.23	
Nov. 21 - Dec. 4	1.07	1.20	1.19	1.07	1.23	
Dec. 5 - Dec. 18	1.00	-	1.20	1.02	1.18	
Dec. 19 - Jan. 1/88	0.93	1.10	1.20	0.83	0.99	
AVERAGE	1.07	1.15	1.17	1.19	1.35	
RANGE	0.9 - 1.3	1.0 - 1.2	1.1-1.2	0.6 - 2.1	0.7-2.2	
% OUTSIDE LIMITS	12%					
NO. OF SAMPLES	26	24	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR OF ERICKSON

The attached data summarizes the 1987 Water Fluoridation Program for the Town of Erickson.

All of the required 26 bi-weekly composite samples were submitted. Of these, 7, or 27% contained fluoride in concentration below the recommended range of 1.0 to 1.4 mg/l. This can be attributed to lower analytical readings in the lab versus those taken by the operator at the plant. Because the discrepancy is consistent, I have suggested that the operator maintain a slightly higher reading at the plant until his test kit can be checked out.

In general, I feel that the Water Plant Operator, Mr. Marland Furewick, continues to do a good job of maintaining the fluoridation equipment for the Town of Erickson.

Jim Senka.

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Marland Furewick

FLUORIDATION CONTROL RECORD - 1987

LOCATION: ERICKSON

FLUORIDATOR: W&T A-588 Ser#NN296

CHEMICAL: NaF 1.5%

OPERATOR: Marland Furevick

TEST KIT: Hach Spectrophotometer

TELEPHONE: 636-2971

NATURAL FLUORIDE CONTENT: 0.23

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.12	1.12	1.12	0.69	0.92	
Jan. 17 - Jan. 30	1.00	1.10	1.11	0.64	0.87	
Jan. 31 - Feb. 13	0.89	1.08	1.05	0.64	0.87	
Feb. 14 - Feb. 27	1.20	1.18	1.18	0.70	0.93	
Feb. 28 - Mar. 13	1.00	1.18	1.07	0.68	0.91	
Mar. 14 - Mar. 27	0.88	1.08	1.08	0.68	0.91	
Mar. 28 - Apr. 10	0.98	1.14	1.16	0.68	0.91	
Apr. 11 - Apr. 24	0.96	1.10	1.06	0.66	0.89	
Apr. 25 - May 8	0.73	1.00	0.96	0.66	0.89	Renovations to pla
May 9 - May 22	0.90	1.12	1.12	0.79	1.02	
May 23 - Jun. 5	0.78	1.04	1.07	0.75	0.98	
Jun. 6 - Jun. 19	1.30	1.06	1.04	0.87	1.10	
Jun. 20 - Jul. 3	1.08	1.12	1.11	0.84	1.07	
Jul. 4 - Jul. 17	1.05	1.14	1.13	0.84	1.07	
Jul. 18 - Jul. 31	1.00	1.16	1.16	0.84	1.07	
Aug. 1 - Aug. 14	1.05	1.12	1.13	0.86	1.09	
Aug. 15 - Aug. 28	1.45	1.14	1.13	0.84	1.07	
Aug. 29 - Sep. 11	1.05	1.14	1.15	0.82	1.06	
Sep. 12 - Sep. 25	0.77	1.12	1.12	1.17	1.40	
Sep. 26 - Oct. 9	1.05	1.14	1.13	1.17	1.40	
Oct. 10 - Oct. 23	0.94	1.12	1.13	1.15	1.38	
Oct. 24 - Nov. 6	1.10	1.18	1.16	1.28	1.51	
Nov. 7 - Nov. 20	0.97	1.10	1.12	1.05	1.28	calibrated system
Nov. 21 - Dec. 4	1.07	1.16	1.19	0.86	1.09	
Dec. 5 - Dec. 18	1.03	1.12	1.11	1.15	1.38	
Dec. 19 - Jan. 1/88	1.00	1.12	1.11	1.15	1.38	
AVERAGE	1.01	1.12	1.11	0.86	1.09	
RANGE	0.7 - 1.4	1.0 - 1.2	1.0-1.2	0.6 - 1.3	0.9-1.5	
% OUTSIDE LIMITS	27%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR HAMIOTA

The attached data summarizes the 1987 Water Fluoridation Program for the Town of Hamiota.

All of the required 26 bi-weekly composite samples were submitted. Of these, 10, or 38% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l.

Instances where fluoride results were outside the recommended range can be attributed in part to the use of unsoftened water for the make-up of fluoride feed solution. There has also been some discrepancy between the fluoride analyses by the water plant staff and the Technical Services Lab. I am confident that the water plant staff will continue to with work with me in finding this source of error.

The Water Treatment Plant Supervisor, Mr. Frank Hutchinson has been very co-operative, and continues to do a good job of maintaining the fluoride equipment for the Town of Hamiota.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Frank Hutchinson

FLUORIDATION CONTROL RECORD - 1987

LOCATION: HAMIOTA

FLUORIDATOR: W&T A-745

CHEMICAL: NaF 1.5%

OPERATOR: Frank Hutchinson

TEST KIT: Hach Spectrophotometer

TELEPHONE: 764-2531

NATURAL FLUORIDE CONTENT: 0.29

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.00	0.95	1.05	1.01	1.30	
Jan. 17 - Jan. 30	1.00	0.95	0.99	0.95	1.24	
Jan. 31 - Feb. 13	0.97	1.00	0.99	1.21	1.50	
Feb. 14 - Feb. 27	0.93	1.00	1.01	1.03	1.32	
Feb. 28 - Mar. 13	0.88	1.05	0.99	1.00	1.29	
Mar. 14 - Mar. 27	0.84	1.05	1.03	0.76	1.05	changed feed point
Mar. 28 - Apr. 10	0.95	1.05	1.02	0.89	1.18	
Apr. 11 - Apr. 24	1.25	1.05	1.01	0.75	1.04	
Apr. 25 - May 8	1.15	1.05	1.02	1.27	1.56	
May 9 - May 22	1.20	1.05	1.03	0.35	0.64	
May 23 - Jun. 5	1.27	1.05	1.02	1.69	1.98	
Jun. 6 - Jun. 19	1.45	1.15	1.03	0.67	0.96	
Jun. 20 - Jul. 3	1.12	1.05	1.04	0.94	1.23	
Jul. 4 - Jul. 17	1.42	1.01	1.01	0.81	1.10	
Jul. 18 - Jul. 31	1.07	1.00	1.02	0.81	1.10	
Aug. 1 - Aug. 14	1.60	1.00	1.03	0.86	1.15	reduced treatment rate from 80 to 55
Aug. 15 - Aug. 28	1.60	1.00	1.03	0.86	1.15	
Aug. 29 - Sep. 11	1.22	1.01	1.02	0.70	0.99	
Sep. 12 - Sep. 25	0.85	1.00	1.00	0.69	0.98	
Sep. 26 - Oct. 9	0.90	1.03	1.03	0.37	0.66	
Oct. 10 - Oct. 23	0.83	1.02	1.04	0.50	0.79	
Oct. 24 - Nov. 6	1.15	1.03	1.21	0.78	1.07	
Nov. 7 - Nov. 20	0.95	1.03	1.03	0.82	1.11	
Nov. 21 - Dec. 4	0.84	1.02	1.27	0.66	0.95	
Dec. 5 - Dec. 18	0.96	1.31	1.08	0.90	1.19	
Dec. 19 - Jan. 1/88	0.60	1.45	1.27	0.51	0.80	
AVERAGE	1.08	1.05	1.05	0.84	1.13	
RANGE	0.6 - 1.6	1.0 - 1.5	1.0-1.3	0.4 - 1.7	0.6-1.6	
% OUTSIDE LIMITS	38%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR LAC DU BONNET

The attached data summarizes the 1987 Water Fluoridation Program for the Village of Lac du Bonnet.

All of the required 26 bi-weekly composite samples were submitted. Of these, 1 or 4% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l. This represents a slight improvement over the 1986 sampling year.

Mr. George Towle, the Water Plant Operator and his staff have once again done a very good job of maintaining the proper fluoride levels in the Lac du Bonnet water supply.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. George Towle

FLUORIDATION CONTROL RECORD - 1987

LOCATION: LAC DU BONNET

FLUORIDATOR: A-745

CHEMICAL: 3% NaF

OPERATOR: George Towle

TEST KIT: Hach Spectrophotometer

TELEPHONE: 345-8395

NATURAL FLUORIDE CONTENT: < 0.1

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.08	1.00	1.08	1.04		
Jan. 17 - Jan. 30	1.30	1.10	1.08	1.29		
Jan. 31 - Feb. 13	1.35	1.17	1.14	1.25		
Feb. 14 - Feb. 27	1.38	1.14	1.12	1.37		
Feb. 28 - Mar. 13	1.45	1.23	1.08	1.29		
Mar. 14 - Mar. 27	0.98	0.97	1.08	0.96		
Mar. 28 - Apr. 10	1.10	1.03	1.01	1.10		
Apr. 11 - Apr. 24	1.35	1.07	1.10	1.18		
Apr. 25 - May 8	1.45	1.30	1.19	1.35		
May 9 - May 22	1.25	1.26	1.21	1.23		
May 23 - Jun. 5	1.23	1.19	1.17	1.17		
Jun. 6 - Jun. 19	1.25	1.16	1.14	1.19		
Jun. 20 - Jul. 3	1.05	1.16	1.15	1.14		
Jul. 4 - Jul. 17	1.10	1.10	1.11	1.05		
Jul. 18 - Jul. 31	1.10	1.02	1.13	1.13		
Aug. 1 - Aug. 14	1.25	1.02	1.13	1.19		
Aug. 15 - Aug. 28	1.22	1.14	1.13	1.22		
Aug. 29 - Sep. 11	1.23	1.28	1.19	1.35		
Sep. 12 - Sep. 25	1.20	1.12	1.24	1.14		
Sep. 26 - Oct. 9	1.35	1.26	1.22	1.16		
Oct. 10 - Oct. 23	1.45	1.22	1.21	1.23		
Oct. 24 - Nov. 6	1.35	1.21	1.23	1.33		
Nov. 7 - Nov. 20	1.29	1.12	1.15	1.55		
Nov. 21 - Dec. 4	1.50	1.25	1.20	1.52		
Dec. 5 - Dec. 18	1.27	1.12	1.13	1.32		
Dec. 19 - Jan. 1/88	1.10	1.10	1.15	1.13		
AVERAGE	1.26	1.14	1.15	1.23		
RANGE	1.0 - 1.5	1.0 - 1.3	1.0-1.2	1.0 - 1.6		
% OUTSIDE LIMITS	4%					
NO. OF SAMPLES	26	26	26	26		

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR MANITOU

The attached data summarizes the 1987 Water Fluoridation Program for the Town of Manitou.

All of the required 22 bi-weekly composite samples were submitted. All of these contained fluoride within the recommended range of 1.0 to 1.4 mg/l. Note that the fluoride feed system was shut down for most of the first four periods (Jan. 3 - Feb. 27). Results from samples representing these periods were, as a result, not considered.

Mr. Percy Lea, the Water Treatment Plant Operator, is to be commended for once again having done an excellent job of maintaining the proper fluoride levels in the Manitou water supply.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Percy Lea

FLUORIDATION CONTROL RECORD - 1987

LOCATION: MANITOU

FLUORIDATOR: W&T A-745

CHEMICAL: NaF 3%

OPERATOR: Percy N. Lea

TEST KIT: Hach Spectrophotometer

TELEPHONE: Plant: 242-2885

NATURAL FLUORIDE CONTENT: 0.19

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	0.77	1.01	1.05	0.22	0.48	
Jan. 17 - Jan. 30	0.26	0.75	0.79	-	-	Fluoridation
Jan. 31 - Feb. 13	0.26	0.72	0.72	-	-	system shut off
Feb. 14 - Feb. 27	0.67	1.00	0.64	0.85	1.04	
Feb. 28 - Mar. 13	1.30	1.22	1.21	0.99	1.25	
Mar. 14 - Mar. 27	1.25	1.25	1.22	0.89	1.14	
Mar. 28 - Apr. 10	1.25	1.26	1.26	0.93	1.22	
Apr. 11 - Apr. 24	1.20	1.22	1.25	1.02	1.22	
Apr. 25 - May 8	1.30	1.25	1.01	1.01	1.20	
May 9 - May 22	1.15	1.24	1.26	0.91	1.10	
May 23 - Jun. 5	1.15	1.18	1.22	0.94	1.13	
Jun. 6 - Jun. 19	1.15	1.21	1.21	1.18	1.37	
Jun. 20 - Jul. 3	1.25	1.25	1.24	0.92	1.11	
Jul. 4 - Jul. 17	1.30	1.27	1.27	0.99	1.18	
Jul. 18 - Jul. 31	1.30	1.27	1.27	1.10	1.29	
Aug. 1 - Aug. 14	1.22	1.21	1.26	1.16	1.35	
Aug. 15 - Aug. 28	1.30	1.28	1.28	0.99	1.18	
Aug. 29 - Sep. 11	1.34	1.25	1.25	1.13	1.32	
Sep. 12 - Sep. 25	1.30	1.23	1.25	1.24	1.43	
Sep. 26 - Oct. 9	1.34	1.30	1.28	0.99	1.18	
Oct. 10 - Oct. 23	1.42	1.32	1.31	1.09	1.28	
Oct. 24 - Nov. 6	1.30	1.32	1.31	1.04	1.23	
Nov. 7 - Nov. 20	1.25	1.24	1.27	0.99	1.18	
Nov. 21 - Dec. 4	1.28	1.32	1.31	1.06	1.25	
Dec. 5 - Dec. 18	1.19	1.22	1.34	0.93	1.12	
Dec. 19 - Jan. 1/88	1.26	1.31	1.30	1.10	1.29	
AVERAGE	1.07	1.26	1.25	1.03	1.23	
RANGE	1.2 - 1.4	1.2 - 1.3	1.0-1.3	0.9 - 1.2	1.1-1.4	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	22	22	22	22	22	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR MCCREARY

The attached data summarizes the 1987 Water Fluoridation Program for the Village of McCreary.

All of the required 26 bi-weekly composite samples were submitted. All of these contained fluoride within the recommended range of 1.0 to 1.4 mg/l.

This is the third consecutive year that the operator, Mr. Ivan Harper has maintained a perfect record of fluoride control. He is to be commended for having done an excellent job.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Ivan Harper

FLUORIDATION CONTROL RECORD - 1987

LOCATION: MCCREARY

FLUORIDATOR: W&T A-588

CHEMICAL: NaF 3%

OPERATOR: Ivan Harper

TEST KIT: Hach Spectrophotometer

TELEPHONE: Office: 835-2341

NATURAL FLUORIDE CONTENT: 0.24

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.15	1.27	1.24	1.20	1.44	
Jan. 17 - Jan. 30	1.20	1.20	1.27	0.98	1.22	
Jan. 31 - Feb. 13	1.20	1.14	1.15	0.94	1.18	
Feb. 14 - Feb. 27	1.15	1.22	1.22	1.00	1.24	
Feb. 28 - Mar. 13	1.13	1.05	1.23	1.02	1.26	
Mar. 14 - Mar. 27	1.15	1.25	1.25	1.00	1.24	
Mar. 28 - Apr. 10	1.14	1.17	1.28	1.07	1.31	
Apr. 11 - Apr. 24	1.12	1.25	1.24	0.85	1.09	
Apr. 25 - May 8	1.20	1.17	1.24	1.01	1.25	
May 9 - May 22	1.15	1.18	1.22	0.93	1.17	
May 23 - Jun. 5	1.17	1.19	1.20	0.96	1.20	
Jun. 6 - Jun. 19	1.20	1.17	1.18	0.99	1.23	
Jun. 20 - Jul. 3	1.17	1.17	1.17	0.94	1.18	
Jul. 4 - Jul. 17	1.25	1.13	1.18	0.95	1.19	
Jul. 18 - Jul. 31	1.20	1.24	1.24	0.91	1.1[illegible]	
Aug. 1 - Aug. 14	1.20	1.21	1.22	0.95	1.19	
Aug. 15 - Aug. 28	1.22	1.31	1.23	0.91	1.15	
Aug. 29 - Sep. 11	1.19	1.21	1.24	0.95	1.19	
Sep. 12 - Sep. 25	1.22	1.17	1.24	1.19	1.43	
Sep. 26 - Oct. 9	1.21	1.30	1.23	0.94	1.18	
Oct. 10 - Oct. 23	1.15	1.21	1.24	0.92	1.16	
Oct. 24 - Nov. 6	1.12	1.22	1.18	0.95	1.19	
Nov. 7 - Nov. 20	1.13	1.16	1.17	0.91	1.15	
Nov. 21 - Dec. 4	1.17	1.13	1.17	0.95	1.19	
Dec. 5 - Dec. 18	1.17	1.25	1.20	0.95	1.19	
Dec. 19 - Jan. 1/88	1.25	1.13	1.28	1.01	1.25	
AVERAGE	1.18	1.20	1.22	0.98	1.22	
RANGE	1.1 - 1.3	1.1 - 1.3	1.2-1.3	0.9 - 1.2	1.1-1.4	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR PILOT MOUND

The attached data summarizes the 1987 Water Fluoridation Program for the Village of Pilot Mound.

Twenty-five of the required 26 bi-weekly composite samples were submitted. Of these, only 1, or 4% contained fluoride in concentration outside the recommended range of 1.0 - 1.4 mg/l. The instance when the fluoride level of the water supply fell outside of the recommended range occured when the feed pump was changed.

Mr. Gary Odlum, the Water Plant Operator is to be commended for once again having done a very good job of maintaining the fluoride level of the Pilot Mound water supply.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Gary Odlum

FLUORIDATION CONTROL RECORD - 1987

LOCATION: PILOT MOUND

FLUORIDATOR: W&T A-588

CHEMICAL: NaF 3%

OPERATOR: Gary Odlum

TEST KIT: Hach DR-2 Spectrophotometer

TELEPHONE: Plant: 825-2115

NATURAL FLUORIDE CONTENT: 0.21

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.20	1.26	1.25	0.75	0.96	
Jan. 17 - Jan. 30	1.30	1.28	1.30	0.73	0.94	
Jan. 31 - Feb. 13	1.20	1.27	1.26	0.66	0.87	
Feb. 14 - Feb. 27	1.40	1.28	1.29	0.75	0.96	
Feb. 28 - Mar. 13	1.28	1.32	1.30	0.70	0.91	
Mar. 14 - Mar. 27	1.17	1.26	1.24	0.63	0.84	
Mar. 28 - Apr. 10	1.23	1.31	1.27	0.70	0.91	
Apr. 11 - Apr. 24	1.20	1.23	1.26	0.78	0.99	
Apr. 25 - May 8	1.18	1.27	1.28	0.76	0.97	
May 9 - May 22	1.10	1.22	1.25	0.78	0.99	
May 23 - Jun. 5	1.12	1.23	1.27	0.77	0.98	
Jun. 6 - Jun. 19	1.25	1.29	1.31	0.79	1.00	
Jun. 20 - Jul. 3	1.20	1.26	1.29	1.03	1.24	
Jul. 4 - Jul. 17	1.20	1.26	1.25	0.88	1.09	
Jul. 18 - Jul. 31	1.25	1.25	1.27	0.80	1.01	
Aug. 1 - Aug. 14	1.23	1.21	1.24	0.75	0.96	
Aug. 15 - Aug. 28	1.17	1.25	1.24	0.73	0.94	
Aug. 29 - Sep. 11	1.23	1.22	1.23	0.73	0.94	
Sep. 12 - Sep. 25	1.35	1.28	1.27	0.83	1.04	
Sep. 26 - Oct. 9	1.45	1.35	1.32	1.00	1.21	
Oct. 10 - Oct. 23	1.65	1.37	1.36	1.20	1.41	
Oct. 24 - Nov. 6	-	1.33	1.32	1.09	1.30	
Nov. 7 - Nov. 20	1.13	1.23	1.27	0.89	1.10	
Nov. 21 - Dec. 4	1.13	1.26	1.27	0.89	1.10	
Dec. 5 - Dec. 18	1.13	1.26	1.26	0.85	1.06	
Dec. 19 - Jan. 1/88	1.08	1.18	1.26	0.89	1.10	
AVERAGE	1.23	1.27	1.27	0.82	1.03	
RANGE	1.1 - 1.7	1.2 - 1.4	1.2-1.3	0.7 - 1.1	0.8-1.4	
% OUTSIDE LIMITS	4%					
NO. OF SAMPLES	25	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR RED RIVER REGIONAL WATER TREATMENT PLANT

The attached data summarizes the 1987 Water Fluoridation Program for the Red River Regional Water Treatment Plant which serves the Communities of Letellier, Altona, Altona Rural Water Co-op, Gretna and Halbstadt/Auxmarais.

All of the required 16 bi-weekly composite samples were submitted. With the exception of period 11, 12, and 21 which were considered as start-up periods only 1 or 6% contained fluoride in concentration outside the recommended range of 1.0 - 1.4 mg/l.

Considering that this is the first year for fluoride treatment in this water plant, the Operator, Mr. Jack Cronk and his staff have done an excellent job of maintaining the fluoride level in the treated water.

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Jack Cronk

FLUORIDATION CONTROL RECORD - 1987

LOCATION: RED RIVER REGIONAL W.T.P. FLUORIDATOR: A-745

CHEMICAL: H2SiF6 - 25% OPERATOR: J. Cronk

TEST KIT: Hach Spectrophotometer DR3 TELEPHONE: 737-2265

NATURAL FLUORIDE CONTENT: 0.17

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87						
Jan. 17 - Jan. 30						
Jan. 31 - Feb. 13						
Feb. 14 - Feb. 27						
Feb. 28 - Mar. 13						
Mar. 14 - Mar. 27						
Mar. 28 - Apr. 10						
Apr. 11 - Apr. 24						
Apr. 25 - May 8						
May 9 - May 22						
May 23 - Jun. 5	(0.50)	0.45	0.47	0.38	*	start-up period
Jun. 6 - Jun. 19	(0.87)	1.10	0.88	0.65	*	
Jun. 20 - Jul. 3	1.05	1.15	0.89	0.71		
Jul. 4 - Jul. 17	1.16	1.20	1.12	0.92		
Jul. 18 - Jul. 31	1.10	1.10	1.02	0.71		
Aug. 1 - Aug. 14	1.23	1.15	1.14	0.09		
Aug. 15 - Aug. 28	1.13	1.15	1.11	0.79		
Aug. 29 - Sep. 11	1.10	0.95	0.98	0.89		
Sep. 12 - Sep. 25	1.20	1.25	1.21	0.85		
Sep. 26 - Oct. 9	1.20	1.15	1.21	0.75		
Oct. 10 - Oct. 23	0.65	-	-	-		
Oct. 24 - Nov. 6	1.20	1.25	1.25	0.79		
Nov. 7 - Nov. 20	1.13	1.20	1.25	1.02		
Nov. 21 - Dec. 4	1.22	1.25	1.28	0.84		
Dec. 5 - Dec. 18	1.17	1.25	1.25	0.76		
Dec. 19 - Jan. 1/88	1.03	1.10	1.15	0.76		
AVERAGE	1.11	1.17	1.14	0.76		
RANGE	0.5 - 1.2	1.0 - 1.3	0.9-1.3	0.1 - 1.0		
% OUTSIDE LIMITS	6%					
NO. OF SAMPLES	16	15	15	15		

* start-up period - figures not included in average

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR RESTON

The attached data summarizes the 1987 Water Fluoridation Program for the Village of Reston.

All of the required 26 bi-weekly composite samples were submitted. All of these contained fluoride in concentrations within the recommended range of 1.0 - 1.4 mg/l.

Mr. Ken Moore, the Water Plant Operator has, for the second year in a row, done an excellent job of maintaining the proper fluoride level in the Reston water supply.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Ken Moore

FLUORIDATION CONTROL RECORD - 1987

LOCATION: RESTON

FLUORIDATOR: W&T A-745 Ser# LDP 102

CHEMICAL: NaF 1.5%

OPERATOR: Ken Moore

TEST KIT: Hach Spectrophotometer

TELEPHONE: Plant: 877-3862

NATURAL FLUORIDE CONTENT: 0.13

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.20	1.15	1.18	0.96	1.09	
Jan. 17 - Jan. 30	1.20	1.20	1.20	0.96	1.09	
Jan. 31 - Feb. 13	1.20	1.10	1.18	0.93	1.06	
Feb. 14 - Feb. 27	1.07	1.18	1.19	0.95	1.08	
Feb. 28 - Mar. 13	1.18	1.20	1.20	0.94	1.07	
Mar. 14 - Mar. 27	1.30	1.18	1.17	0.90	1.03	
Mar. 28 - Apr. 10	1.10	1.20	1.20	0.94	1.07	
Apr. 11 - Apr. 24	1.15	1.18	1.19	0.89	1.12	
Apr. 25 - May 8	1.25	1.20	1.20	0.87	1.10	
May 9 - May 22	1.15	1.25	1.20	0.84	0.97	
May 23 - Jun. 5	1.20	1.25	1.22	0.89	1.02	
Jun. 6 - Jun. 19	1.18	1.25	1.21	0.87	1.00	
Jun. 20 - Jul. 3	1.20	1.20	1.19	0.89	1.02	
Jul. 4 - Jul. 17	1.20	1.15	1.18	0.93	1.06	
Jul. 18 - Jul. 31	1.10	1.18	1.19	0.94	1.07	
Aug. 1 - Aug. 14	1.15	1.20	1.20	0.95	1.08	
Aug. 15 - Aug. 28	1.08	1.25	1.21	0.91	1.04	
Aug. 29 - Sep. 11	1.10	1.20	1.20	0.91	1.04	
Sep. 12 - Sep. 25	1.05	1.20	1.20	0.96	1.09	
Sep. 26 - Oct. 9	1.18	1.15	1.18	0.97	1.10	
Oct. 10 - Oct. 23	1.18	1.20	1.20	0.95	1.08	
Oct. 24 - Nov. 6	1.03	1.20	1.20	0.96	1.09	
Nov. 7 - Nov. 20	1.24	1.18	1.19	1.00	1.13	
Nov. 21 - Dec. 4	1.18	1.22	1.22	1.09	1.22	
Dec. 5 - Dec. 18	1.13	1.22	1.22	0.93	1.06	
Dec. 19 - Jan. 1/88	1.23	1.25	1.22	1.02	1.15	
AVERAGE	1.16	1.20	1.20	0.94	1.07	
RANGE	1.0 - 1.3	1.1 - 1.3	1.2	0.8 - 1.0	1.0-1.2	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR ROSSBURN

The attached data summarizes the 1987 Water Fluoridation Program for the Village of Rossburn.

Twenty-five of the required 26 bi-weekly composite samples were submitted. Of these, 7, or 27% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l. Since the calculated feed (based on the amount of water treated and the amount of fluoride solution used over the two-week period), for the periods of reported high readings coincides with the operators readings, which were normal, it may be assumed that the fluoride level in the Rossburn water supply were acceptable during these periods.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Doug Joiner

FLUORIDATION CONTROL RECORD - 1987

LOCATION: ROSSBURN

FLUORIDATOR: W&T A-745

CHEMICAL: NaF 1.5% 0.75% NaF

OPERATOR: Doug Joiner

TEST KIT: Hach Spectrophotometer

TELEPHONE: 859-2762

NATURAL FLUORIDE CONTENT: 0.10

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.00	0.99	1.00	0.73		
Jan. 17 - Jan. 30	1.24	1.01	1.01	0.70		
Jan. 31 - Feb. 13	1.20	1.05	1.06	0.69		
Feb. 14 - Feb. 27	1.10	1.04	1.09	0.75		
Feb. 28 - Mar. 13	1.30	1.03	1.04	0.72		
Mar. 14 - Mar. 27	1.25	1.04	1.04	0.77		
Mar. 28 - Apr. 10	1.08	1.09	1.09	-		
Apr. 11 - Apr. 24	1.15	1.06	1.06	0.74		
Apr. 25 - May 8	1.20	1.07	1.08	0.46		
May 9 - May 22	1.13	-	1.06	-		
May 23 - Jun. 5	0.46	-	1.06	0.34		
Jun. 6 - Jun. 19	0.89	1.00	0.89	0.88		
Jun. 20 - Jul. 3	1.03	1.02	1.12	0.73		
Jul. 4 - Jul. 17	(8.60)	1.10	1.00	0.90		contaminated sample
Jul. 18 - Jul. 31	-	-	-	-		
Aug. 1 - Aug. 14	1.20	1.01	1.02	0.46		
Aug. 15 - Aug. 28	(3.14)	1.02	1.03	0.76		contaminated sample
Aug. 29 - Sep. 11	1.65	1.04	1.03	0.75		
Sep. 12 - Sep. 25	1.50	1.30	1.03	0.77		
Sep. 26 - Oct. 9	1.07	1.02	1.04	0.75		
Oct. 10 - Oct. 23	1.10	1.01	1.01	0.86		
Oct. 24 - Nov. 6	1.23	1.02	1.02	0.86		
Nov. 7 - Nov. 20	1.18	1.03	1.03	0.94		
Nov. 21 - Dec. 4	1.50	1.03	1.03	0.81		
Dec. 5 - Dec. 18	1.40	1.03	1.03	0.75		
Dec. 19 - Jan. 1/88	1.20	1.02	1.03	0.70		
AVERAGE	1.18	1.04	1.04	0.73		
RANGE	0.5 - 3.1	1.0 - 1.1	0.9-1.1	0.3 - 0.9		
% OUTSIDE LIMITS	27%					
NO. OF SAMPLES	23	23	25	23		

( ) not included in average

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR RUSSELL

The attached data summarizes the 1987 Water Fluoridation Program for the Town of Russell.

Twenty-three of the 26 required bi-weekly composite samples were submitted. All of these contained fluoride in concentration within the recommended range of 1.0 to 1.4 mg/l.

Mr. Harold Schrader, the Water Treatment Plant Operator, has, for the second consecutive year, done an excellent job of maintaining the fluoride level in the Russell water supply.

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c Mr. Harold Schrader

FLUORIDATION CONTROL RECORD - 1987

LOCATION: RUSSELL

FLUORIDATOR: W&T A-747

CHEMICAL: NaF 2%

OPERATOR: Harold Schrader

TEST KIT: Hach DR-2 Spectrophotometer

TELEPHONE: Plant: 773-3185

NATURAL FLUORIDE CONTENT: 0.21

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.42		1.28	1.13	1.34	
Jan. 17 - Jan. 30	1.15	1.25	-	0.98	1.19	
Jan. 31 - Feb. 13	1.12	1.15	1.15	0.98	1.19	
Feb. 14 - Feb. 27	1.07	1.20	1.17	0.97	1.18	
Feb. 28 - Mar. 13	1.15	1.20	1.20	0.93	1.14	
Mar. 14 - Mar. 27	-	1.05	1.17	1.07	1.28	Broken in transit
Mar. 28 - Apr. 10	1.30	1.25	1.20	1.04	1.25	
Apr. 11 - Apr. 24	1.15	1.20	1.20	1.11	1.32	
Apr. 25 - May 8	1.20	1.20	1.17	1.03	1.24	
May 9 - May 22	1.15	1.20	1.19	0.56	0.77	
May 23 - Jun. 5	1.04	1.00	1.11	0.96	1.17	
Jun. 6 - Jun. 19	1.08	1.15	1.12	1.27	1.48	
Jun. 20 - Jul. 3	1.15	1.25	1.11	1.41	1.62	
Jul. 4 - Jul. 17	1.28	1.20	1.18	1.48	1.69	
Jul. 18 - Jul. 31	1.17	1.20	1.18	1.11	1.32	
Aug. 1 - Aug. 14	-	1.25	1.16	-	-	changed to 1%
Aug. 15 - Aug. 28	1.44	1.40	1.25	0.97	1.16	B.I.T.
Aug. 29 - Sep. 11	1.18	1.20	1.21	1.16	1.37	Flowmeter
Sep. 12 - Sep. 25	1.10	1.20	1.19	0.99	1.20	U/S
Sep. 26 - Oct. 9	1.12	1.20	1.18	1.04	1.25	
Oct. 10 - Oct. 23	1.04	1.10	1.17	0.96	1.17	
Oct. 24 - Nov. 6	-	1.25	1.18	1.09	1.30	B.I.T.
Nov. 7 - Nov. 20	1.13	1.20	1.19	0.87	1.08	
Nov. 21 - Dec. 4	1.08	1.20	1.20	0.90	1.11	
Dec. 5 - Dec. 18	1.18	1.20	1.22	1.02	1.23	
Dec. 19 - Jan. 1/88	1.23	1.20	1.20	1.14	1.35	
AVERAGE	1.17	1.20	1.18	1.05	1.26	
RANGE	1.0 - 1.4	1.0 - 1.4	1.2-1.3	0.6 - 1.5	0.8-1.7	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	23	25	25	25	25	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Erv Griffin
General Manager
Manitoba Water Services Board
P.O. Box 1059
Brandon, MB
R7A 6A2

SUBJECT: 1987 FLUORIDE CONTROL DATA FOR WINKLER

The attached data summarizes the 1987 Water Fluoridation Program for the Town of Winkler.

All of the required 26 bi-weekly composite samples were submitted. Of these, 2, or 8% contained fluoride in concentration below the recommended level of 1.0 to 1.4 mg/l.

Mr. Jake Loewen, the Water Treatment Plant Operator and his staff have once again done a very good job of maintaining the fluoride levels in the Winkler water supply.

Jim Senka

Jim Senka, B.Sc.
Attach.
c.c. Mr. Jake Loewen

FLUORIDATION CONTROL RECORD - 1987

LOCATION: WINKLER

FLUORIDATOR: W&T A-747 Ser# GG 15630

CHEMICAL: NaF 3%

OPERATOR: Lou Lowen/Abe Dick

TEST KIT: Hach Spectrophotometer

TELEPHONE: 325-8711

NATURAL FLUORIDE CONTENT: 0.26

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.25	1.32	1.25	0.72	0.98	
Jan. 17 - Jan. 30	1.25	1.31	1.29	0.72	0.98	
Jan. 31 - Feb. 13	1.25	1.30	1.28	0.71	0.97	
Feb. 14 - Feb. 27	1.12	1.28	1.25	0.73	0.99	
Feb. 28 - Mar. 13	1.05	1.20	1.18	0.69	0.95	
Mar. 14 - Mar. 27	1.07	1.20	1.15	0.62	0.88	
Mar. 28 - Apr. 10	1.00	1.19	1.19	0.63	0.89	
Apr. 11 - Apr. 24	1.08	1.20	1.20	0.65	0.91	
Apr. 25 - May 8	1.05	1.14	1.13	0.65	0.91	
May 9 - May 22	1.00	1.18	1.16	0.69	0.95	
May 23 - Jun. 5	1.08	1.19	1.18	0.69	0.95	
Jun. 6 - Jun. 19	1.07	1.13	1.10	0.64	0.90	
Jun. 20 - Jul. 3	1.05	1.42	1.24	0.66	0.92	
Jul. 4 - Jul. 17	1.07	1.20	1.14	0.65	0.91	
Jul. 18 - Jul. 31	1.11	1.29	1.21	0.72	0.98	
Aug. 1 - Aug. 14	0.92	1.07	1.07	0.57	0.83	
Aug. 15 - Aug. 28	0.92	1.18	1.07	0.56	0.82	
Aug. 29 - Sep. 11	1.00	1.02	1.08	0.69	0.95	
Sep. 12 - Sep. 25	1.10	1.16	1.15	0.74	1.00	
Sep. 26 - Oct. 9	1.17	1.22	1.21	0.79	1.05	
Oct. 10 - Oct. 23	1.13	1.20	1.19	0.79	1.05	
Oct. 24 - Nov. 6	1.14	1.26	1.22	0.78	1.04	
Nov. 7 - Nov. 20	1.18	1.21	1.22	0.78	1.04	
Nov. 21 - Dec. 4	1.08	1.22	1.18	0.72	0.98	
Dec. 5 - Dec. 18	1.17	1.21	1.21	0.77	1.03	
Dec. 19 - Jan. 1/88	1.20	1.24	1.23	0.79	1.05	
AVERAGE	1.10	1.21	1.18	0.70	0.96	
RANGE	0.9 - 1.3	1.0 - 1.4	1.1-1.3	0.6 - 0.8	0.8-1.1	
% OUTSIDE LIMITS	8%					
NO. OF SAMPLES	26	26	26	26	26	

APPENDIX "C"

YEAR END SUMMARIES FOR COMMUNITY-OWNED

TREATMENT PLANTS

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. A. Galatiuk
Secretary-Treasurer
Town of Birtle
P.O. Box 57
Birtle, Manitoba
ROM OCO

Dear Mr. Galatiuk:

RE: 1987 FLUORIDATION CONTROL DATA FOR BIRTLE

Attached, for review by your Mayor and Council, is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Birtle.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/sw
Attach.
c.c Bill Crewson/Lonnie Oryniak

FLUORIDATION CONTROL RECORD - 1987

LOCATION: BIRTLE

FLUORIDATOR: LMI - 741 (dual system)

CHEMICAL: 4% NaF

OPERATOR: Lonnie Oryniak

TEST KIT: Hach DR-100

TELEPHONE: 842-3234

NATURAL FLUORIDE CONTENT: 0.26

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87						
Jan. 17 - Jan. 30						
Jan. 31 - Feb. 13						
Feb. 14 - Feb. 27						
Feb. 28 - Mar. 13						
Mar. 14 - Mar. 27						
Mar. 28 - Apr. 10						
Apr. 11 - Apr. 24						
Apr. 25 - May 8						
May 9 - May 22						
May 23 - Jun. 5						
Jun. 6 - Jun. 19						
Jun. 20 - Jul. 3						
Jul. 4 - Jul. 17						
Jul. 18 - Jul. 31						
Aug. 1 - Aug. 14						
Aug. 15 - Aug. 28						
Aug. 29 - Sep. 11						
Sep. 12 - Sep. 25						
Sep. 26 - Oct. 9						
Oct. 10 - Oct. 23						
Oct. 24 - Nov. 6						
Nov. 7 - Nov. 20	1.08	1.21	1.13	0.97	1.23	
Nov. 21 - Dec. 4	1.13	1.20	1.13	2.19	2.45	
Dec. 5 - Dec. 18	0.96	1.09	1.00	3.16	3.42	
Dec. 19 - Jan. 1/88	1.62	1.45	1.19	1.20	1.46	
AVERAGE	1.20	1.24	1.11	1.88	2.14	
RANGE	1.0 - 1.6	1.1 - 1.5	1.0-1.2	1.0 - 3.2	1.2-3.4	
% OUTSIDE LIMITS	25%					
NO. OF SAMPLES	4	4	4	4	4	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Gerald May
Secretary-Treasurer
Town of Boissevain
P.O. Box 490
Boissevain, MB
R0K 0E0

Dear Mr. May:

RE: 1987 FLUORIDATION CONTROL DATA FOR BOISSEVAIN

Attached for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Boissevain.

Twenty-five of the required 26 bi-weekly composite samples were submitted. Of these, 4, or 16% contained fluoride outside the recommended range of 1.0 to 1.4 mg/l. This represents a significant improvement over 1986, when 35% of the samples fell outside the recommended range.

Your Waterworks Superintendent, Mr. Barry Chinner and his assistant Mr. Ron Dyer have, in my estimation, done a good job of maintaining the proper level of fluoride in the Boissevain water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Barry Chinner

FLUORIDATION CONTROL RECORD - 1987

LOCATION: BOISSEVAIN FLUORIDATOR: W&T A-747

CHEMICAL: NaF 2.3% OPERATOR: Barry Chinner

TEST KIT: Hach Filterphotometer TELEPHONE: 534-6762

NATURAL FLUORIDE CONTENT: 0.20

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.42	1.35	1.20	1.10	1.30	
Jan. 17 - Jan. 30	1.40	1.30	1.26	1.22	1.42	
Jan. 31 - Feb. 13	1.06	1.10	1.11	1.03	1.23	
Feb. 14 - Feb. 27	-	-	-	-	-	
Feb. 28 - Mar. 13	1.20	0.90	1.13	0.68	0.88	
Mar. 14 - Mar. 27	1.47	1.40	1.23	0.81	1.08	
Mar. 28 - Apr. 10	1.30	1.15	1.25	0.72	1.00	
Apr. 11 - Apr. 24	1.08	1.15	1.10	0.64	0.94	
Apr. 25 - May 8	1.00	1.10	1.20	1.83	1.03	
May 9 - May 22	0.97	1.00	1.07	0.78	1.05	
May 23 - Jun. 5	0.97	-	1.04	0.79	1.06	
Jun. 6 - Jun. 19	0.89	1.10	0.90	0.72	1.00	
Jun. 20 - Jul. 3	1.05	1.20	1.01	0.92	1.17	
Jul. 4 - Jul. 17	1.15	1.20	1.16	0.97	1.20	
Jul. 18 - Jul. 31	1.05	1.05	0.91	0.78	1.06	
Aug. 1 - Aug. 14	1.17	1.10	1.13	0.97	1.22	
Aug. 15 - Aug. 28	1.50	1.30	1.25	1.18	1.39	
Aug. 29 - Sep. 11	1.32	1.25	1.29	1.05	1.28	
Sep. 12 - Sep. 25	1.30	1.30	1.20	1.85	1.05	
Sep. 26 - Oct. 9	1.40	1.20	1.15	0.66	0.95	
Oct. 10 - Oct. 23	1.30	1.15	1.18	1.09	1.21	
Oct. 24 - Nov. 6	1.40	1.30	1.21	1.01	1.24	
Nov. 7 - Nov. 20	1.34	1.40	1.25	1.05	1.28	
Nov. 21 - Dec. 4	1.45	1.30	1.23	1.18	1.39	
Dec. 5 - Dec. 18	1.47	1.30	1.28	0.81	1.01	
Dec. 19 - Jan. 1/88	1.38	1.35	1.11	1.08	1.28	
AVERAGE	1.24	1.20	1.15	1.00	1.15	
RANGE	0.9 - 1.5	1.0 - 1.4	0.9 - 1.3	0.6 - 1.9	0.9-1.4	
% OUTSIDE LIMITS	16%					
NO. OF SAMPLES	25	24	25	25	25	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Ian Ford
City Clerk
City of Brandon
Brandon, MB
R7N 0M0

Dear Mr. Ford:

RE: 1987 FLUORIDATION CONTROL DATA FOR BRANDON

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the City of Brandon.

All of the required 26 bi-weekly composite samples were submitted. All contained fluoride within the recommended range of 1.0 to 1.4 mg/l.

Your Waterworks Supervisor, Mr. Herb Gerling, along with his assistant Mr. George Jago and staff, continue to do an excellent job of maintaining the proper level of fluoride in the Brandon water supply. It has been a pleasure working with them.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Herb Gerling/Mr. George Jago

FLUORIDATION CONTROL RECORD - 1987

LOCATION: BRANDON

FLUORIDATOR: W&T A-690

CHEMICAL: Na2 Sif6 (Dry)

OPERATOR: Herb Gerling/George Jago

TEST KIT: Hach Spectrophotometer

TELEPHONE: Plant: 728-7424 City: 728-2278

NATURAL FLUORIDE CONTENT: 0.20

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.25	1.20	1.13	1.18	1.38	
Jan. 17 - Jan. 30	1.30	1.27	1.18	1.27	1.47	
Jan. 31 - Feb. 13	1.25	1.33	1.20	1.20	1.40	
Feb. 14 - Feb. 27	1.25	1.32	1.14	1.21	1.41	
Feb. 28 - Mar. 13	1.17	1.30	1.12	1.09	1.29	
Mar. 14 - Mar. 27	1.10	1.22	1.16	1.10	1.30	
Mar. 28 - Apr. 10	1.15	1.20	1.13	1.09	1.29	
Apr. 11 - Apr. 24	1.15	1.21	1.15	1.03	1.23	
Apr. 25 - May 8	1.05	1.26	1.20	1.14	1.34	
May 9 - May 22	1.10	1.15	1.14	1.02	1.22	
May 23 - Jun. 5	1.23	1.21	1.22	1.05	1.25	
Jun. 6 - Jun. 19	1.15	1.20	1.08	0.72	0.92	
Jun. 20 - Jul. 3	1.00	1.10	1.13	0.90	1.10	
Jul. 4 - Jul. 17	1.35	1.30	1.16	1.07	1.27	
Jul. 18 - Jul. 31	1.15	-	1.22	1.00	1.20	
Aug. 1 - Aug. 14	1.05	1.15	1.10	0.94	1.14	
Aug. 15 - Aug. 28	1.33	1.10	1.11	1.12	1.32	
Aug. 29 - Sep. 11	1.23	1.25	1.17	1.07	1.27	
Sep. 12 - Sep. 25	1.05	1.15	1.13	0.99	1.19	
Sep. 26 - Oct. 9	1.12	1.21	1.05	0.85	1.05	
Oct. 10 - Oct. 23	1.28	1.28	1.12	1.25	1.45	
Oct. 24 - Nov. 6	1.40	1.23	1.17	1.29	1.49	
Nov. 7 - Nov. 20	1.14	1.15	1.20	1.16	1.36	
Nov. 21 - Dec. 4	1.10	1.24	1.01	1.15	1.35	
Dec. 5 - Dec. 18	1.27	1.33	1.16	1.16	1.36	
Dec. 19 - Jan. 1/88	1.20	-	-	-	-	
AVERAGE	1.19	1.22	1.14	1.08	1.28	
RANGE	1.0 - 1.4	1.1 - 1.3	1.0 - 1.2	0.7 - 1.3	0.9-1.5	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	26	24	25	25	25	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Bruce Lyle
Secretary - Treasurer
Town of Carman
P.O. Box 160
Carman, MB
R0J 0J0

Dear Mr. Lyle:

RE: 1987 FLUORIDATION CONTROL DATA FOR CARMAN

Attached for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Carman.

Twenty-five of the required 26 bi-weekly samples were submitted. Of these, 5, or 20% contained fluoride in concentration outside the recommended range.

Mr. Dennis Bell, the Water Treatment Plant Supervisor has done a good job of maintaining and operating the fluoridation equipment for the town of Carman. It has been a pleasure working with him.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Dennis Bell

FLUORIDATION CONTROL RECORD - 1987

LOCATION: CARMAN

FLUORIDATOR: W&T A-748 Ser# KK16902

CHEMICAL: NaF 1.8%

OPERATOR: Dennis Bell

TEST KIT: Hach Spectrophotometer

TELEPHONE: 745-2481 - Plant

NATURAL FLUORIDE CONTENT: 0.21

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87			1.28			No sample.
Jan. 17 - Jan. 30	1.08	1.05	1.22	0.95	1.16	
Jan. 31 - Feb. 13	1.20	1.35	1.28	1.16	1.37	
Feb. 14 - Feb. 27	1.47	1.25	1.29	0.91	1.12	
Feb. 28 - Mar. 13	1.17	1.35	1.28	0.89	1.10	
Mar. 14 - Mar. 27	1.00	1.20	1.19	0.78	0.99	
Mar. 28 - Apr. 10	0.96	1.35	1.16	0.96	1.17	
Apr. 11 - Apr. 24	0.83	1.10	-	0.84	1.05	
Apr. 25 - May 8	0.91	1.10	1.11	0.75	0.96	Plant effluent me
May 9 - May 22	1.05	1.20	1.26	1.43	1.64	not recording
May 23 - Jun. 5	0.97	1.10	1.22	1.08	1.29	properly
Jun. 6 - Jun. 19	1.00	1.40	1.19	1.34	1.55	
Jun. 20 - Jul. 3	1.04	1.15	1.25	1.26	1.47	
Jul. 4 - Jul. 17	1.03	1.50	1.31	0.70	0.91	
Jul. 18 - Jul. 31	0.92	1.20	1.26	0.80	1.01	
Aug. 1 - Aug. 14	0.90	1.10	1.31	0.99	1.20	
Aug. 15 - Aug. 28	1.00	1.10	1.16	0.82	1.03	
Aug. 29 - Sep. 11	1.00	1.15	1.25	0.80	1.01	DR-3 Recalibrate.
Sep. 12 - Sep. 25	1.05	1.35	1.23	1.89	2.10	
Sep. 26 - Oct. 9	1.17	1.30	1.30	2.01	2.22	
Oct. 10 - Oct. 23	1.13	1.20	1.32	1.88	2.09	
Oct. 24 - Nov. 6	1.18	1.20	1.26	-	-	
Nov. 7 - Nov. 20	1.08	1.10	1.22	1.51	1.72	
Nov. 21 - Dec. 4	1.23	1.25	1.24	2.02	2.23	
Dec. 5 - Dec. 18	1.09	1.20	1.24	1.91	2.12	
Dec. 19 - Jan. 1/88	1.18	1.50	1.31	1.49	1.70	
AVERAGE	1.07	1.23	1.25	1.22	1.43	
RANGE	0.8 - 1.5	1.1 - 1.5	1.1-1.3	0.7 - 2.0	0.9-2.2	
% OUTSIDE LIMITS	20%					
NO. OF SAMPLES	25	25	25	24	24	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. A.G. Dmitruk
Secretary-Treasurer
Town of Dauphin
21 - 2nd Avenue, N.W.
Dauphin, MB
R7N 1H1

Dear Mr. Dmitruk:

RE: 1987 FLUORIDATION CONTROL DATA FOR DAUPHIN

Attached for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Dauphin.

All of the required 21 bi-weekly composite samples were submitted. Of these, 3, or 14% contained fluoride in concentration below the recommended range of 1.0 to 1.4 mg/l. Two of these instances occurred during a supply shortage when your water works staff turned the feed down to conserve the supply of acid.

The selection of a hydrofluosilicic acid feed paced system for fluoride level adjustment has proven to be a wise choice by your Engineering Department.

Your waterworks Superintendent, Mr. Eugene Mayuk and his staff have done an excellent job of maintaining the proper fluoride level in the Dauphin water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Ray Storozinski
Mr. Eugene Mayuk

FLUORIDATION CONTROL RECORD - 1987

LOCATION: DAUPHIN

FLUORIDATOR: W&T A-690 paced

CHEMICAL: H2SiF6 25%

OPERATOR: Eugene Mayuk - Town Supt.
Ray Storizinski - Town Eng.

TEST KIT: Hach Spectrophotometer

TELEPHONE: 638-3601

NATURAL FLUORIDE CONTENT: 0.14

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87						
Jan. 17 - Jan. 30						
Jan. 31 - Feb. 13						
Feb. 14 - Feb. 27						
Feb. 28 - Mar. 13						
Mar. 14 - Mar. 27	0.98	1.20	1.10	0.89	1.03	
Mar. 28 - Apr. 10	1.10	1.05	1.19	0.95	1.09	
Apr. 11 - Apr. 24	1.00	1.05	1.08	0.89	1.05	
Apr. 25 - May 8	1.25	1.40	1.32	1.13	1.31	
May 9 - May 22	1.05	1.20	1.26	1.00	1.22	calibrated pump
May 23 - Jun. 5	1.17	1.30	1.29	-	-	
Jun. 6 - Jun. 19	1.00	1.30	1.20	0.89	1.12	
Jun. 20 - Jul. 3	1.00	1.20	1.21	0.73	0.89	
Jul. 4 - Jul. 17	0.80*	0.75	0.99	0.77	0.94	
Jul. 18 - Jul. 31	0.89*	1.20	1.11	0.87	1.08	Fluoride supply limited
Aug. 1 - Aug. 14	1.03	1.20	1.19	0.99	1.20	
Aug. 15 - Aug. 28	1.14	1.20	1.21	0.93	1.13	
Aug. 29 - Sep. 11	1.05	1.20	1.22	0.75	0.92	
Sep. 12 - Sep. 25	0.90	1.20	1.19	1.26	1.42	
Sep. 26 - Oct. 9	1.05	1.20	1.19	0.87	1.07	
Oct. 10 - Oct. 23	1.10	1.20	1.29	0.83	1.01	
Oct. 24 - Nov. 6	1.03	1.20	1.23	0.89	1.08	
Nov. 7 - Nov. 20	1.04	1.25	1.23	0.92	1.06	
Nov. 21 - Dec. 4	1.07	1.25	1.25	0.92	1.06	
Dec. 5 - Dec. 18	1.00	1.20	1.19	0.94	1.08	
Dec. 19 - Jan. 1/88	1.00	1.20	1.20	0.92	1.04	
AVERAGE	1.03	1.19	1.20	0.92	1.09	
RANGE	0.8 - 1.3	0.8 - 1.3	1.0-1.3	0.7 - 1.3	0.9-1.4	
% OUTSIDE LIMITS	14%					
NO. OF SAMPLES	21	21	21	20	20	

* deliberate cutback due to HSF shortage

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Gary Hanna
Resident Administration
L.G.D. of Gillam
P.O. Box 100
Gillam, MB
R0B 0L0

Dear Mr. Hanna:

RE: 1987 FLUORIDATION CONTROL DATA FOR GILLAM

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the L.G.D. of Gillam.

Twenty-one of the required 26 bi-weekly composite samples were received. (5 bottles were broken in transit, however, it is believed this situation has been corrected). Of the samples analysed, 7, or 33% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l. It is interesting to note, however, that all samples since July have contained the proper amount of fluoride.

Your Water Plant Operator, Mr. Dennis Crozier has done a very good job of maintaining the proper amount of fluoride in the Gillam water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
c.c. Mr. Rudy Gaiden
Mr. Dennis Crozier

FLUORIDATION CONTROL RECORD - 1987

LOCATION: GILLAM

FLUORIDATOR: LIQUID METRONICS

CHEMICAL: 4% NaF

OPERATOR: Rudy Gaider/Dennis Crozier

TEST KIT: Hach Spectrophotometer

TELEPHONE: Shop: 652-2629 Plant: 652-2377

NATURAL FLUORIDE CONTENT: 0.10

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.15	-	1.18	0.26		
Jan. 17 - Jan. 30	0.92	-	1.04	0.15		
Jan. 31 - Feb. 13						
Feb. 14 - Feb. 27	1.23	-	1.10	1.28		
Feb. 28 - Mar. 13	1.01	-	1.21	0.10		
Mar. 14 - Mar. 27						
Mar. 28 - Apr. 10	0.96	-	1.20	0.60		
Apr. 11 - Apr. 24	0.87	-	1.20	0.70		
Apr. 25 - May 8	0.80	-	1.20	0.60		
May 9 - May 22	4.50	1.15	1.15	0.74		contaminated samp
May 23 - Jun. 5	0.80	1.10	1.09	0.53		
Jun. 6 - Jun. 19	0.75	1.00	1.01	0.56		
Jun. 20 - Jul. 3	0.90	1.05	1.07	0.83		
Jul. 4 - Jul. 17	1.10	1.05	1.04	0.98		
Jul. 18 - Jul. 31	1.00	1.05	1.10	-		sol'n checked @3.
Aug. 1 - Aug. 14	1.10	1.05	1.03	-		
Aug. 15 - Aug. 28	1.05	1.20	1.14	-		
Aug. 29 - Sep. 11	1.07	1.10	1.13	-		
Sep. 12 - Sep. 25	1.06	1.20	1.20	-		
Sep. 26 - Oct. 9	1.03	1.05	1.13	-		
Oct. 10 - Oct. 23	1.00	-	1.13	-		
Oct. 24 - Nov. 6	1.00	1.25	1.17	-		flowmeter being
Nov. 7 - Nov. 20	B.I.T.	0.90	0.95	-		calibrated
Nov. 21 - Dec. 4	B.I.T.	0.95	0.95	-		
Dec. 5 - Dec. 18	B.I.T	1.10	1.08	-		
Dec. 19 - Jan. 1/88	1.22					
B.I.T. - Broken in transit						
AVERAGE	1.00	1.08	1.11	0.61		
RANGE	0.8 - 4.5	0.9 - 1.2	1.0-1.2	0.1 - 1.3		
% OUTSIDE LIMITS	33%					
NO. OF SAMPLES	21	15	23	12		

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mrs. Doris Lloyd
Secretary-Treasurer
Town of Gimli
P.O. Box 88
Gimli, MB
R0C 1B0

Dear Mrs. Lloyd:

RE: 1987 FLUORIDATION CONTROL DATA FOR GIMLI

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Gimli.

All of the required 26 bi-weekly composite samples were submitted. Of these, 2, or 8% contained fluoride in concentration outside the acceptable range of 1.0 to 1.4 mg/l.

Your Waterworks Superintendent, Mr. Albert Markusson continues to do a very good job of maintaining the proper level of fluoride in the Gimli water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Albert Markusson

FLUORIDATION CONTROL RECORD - 1987

LOCATION: GIMLI (TOWN) FLUORIDATOR: W&T A-745-022

CHEMICAL: NaF 3% OPERATOR: Albert Markusson

TEST KIT: Hach PH/Fluoride Meter (Probe) TELEPHONE: Plant: 642-7443 Off: 642-5210

NATURAL FLUORIDE CONTENT: 0.45

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.20	1.05	1.04	0.55	1.00	
Jan. 17 - Jan. 30	1.10	1.10	1.09	0.69	1.14	
Jan. 31 - Feb. 13	1.20	1.10	0.98	0.63	1.08	
Feb. 14 - Feb. 27	1.07	1.10	1.11	0.79	1.24	
Feb. 28 - Mar. 13	1.10	1.05	1.03	0.56	1.01	
Mar. 14 - Mar. 27	0.98	1.00	0.95	0.52	0.97	
Mar. 28 - Apr. 10	1.05	1.00	1.01	0.60	1.05	
Apr. 11 - Apr. 24	1.25	1.15	1.13	0.60	1.05	
Apr. 25 - May 8	1.25	1.10	1.10	0.57	1.02	
May 9 - May 22	0.97	1.10	1.10	0.60	1.05	
May 23 - Jun. 5	1.05	1.05	1.07	0.56	1.01	
Jun. 6 - Jun. 19	1.15	1.10	1.08	0.59	1.04	
Jun. 20 - Jul. 3	1.25	1.00	0.96	0.45	0.90	
Jul. 4 - Jul. 17	1.52	1.40	1.37	0.77	1.22	
Jul. 18 - Jul. 31	1.05	1.10	1.10	0.48	0.93	
Aug. 1 - Aug. 14	1.00	1.10	1.10	0.47	0.92	
Aug. 15 - Aug. 28	1.00	1.00	1.05	0.60	1.05	
Aug. 29 - Sep. 11	0.85	1.00	1.00	0.49	0.94	
Sep. 12 - Sep. 25	0.96	1.10	1.10	0.59	1.04	
Sep. 26 - Oct. 9	1.09	1.15	1.17	0.61	1.06	
Oct. 10 - Oct. 23	1.07	1.10	1.10	0.60	1.05	
Oct. 24 - Nov. 6	1.14	1.10	1.11	0.66	1.11	
Nov. 7 - Nov. 20	1.24	1.30	1.06	0.74	1.19	
Nov. 21 - Dec. 4	1.13	1.00	1.00	0.69	1.14	
Dec. 5 - Dec. 18	1.09	1.10	1.10	0.67	1.12	
Dec. 19 - Jan. 1/88	1.12	1.15	1.15	0.62	1.07	
AVERAGE	1.11	1.10	1.08	0.60	1.05	
RANGE	0.9 - 1.5	1.0 - 1.4	1.0-1.4	0.5 - 0.8	0.9-1.2	
% OUTSIDE LIMITS	8%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mrs. Helen Tefs
Secretary-Treasurer
Town of Gladstone
P.O. Box 25
Gladstone, MB
R0J 0T0

Dear Mrs. Tefs:

RE: 1987 FLUORIDATION CONTROL DATA FOR GLADSTONE

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Gladstone.

All of the required 26 bi-weekly composite samples were submitted. Of these, only 1, or 4% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l. In this case, a calculation of the amount of fluoride in the water, based on the amount of solution used, inicates the possibility of a contaminated sample or an error in the lab analysis. As such, it can be disregarded.

Mr. John Waldner, your Water Treatment Plant Operator has done a very good job of maintaining the proper level of fluoride in the Gladstone water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Lorne Kennedy
Mr. John Waldner

FLUORIDATION CONTROL RECORD - 1987

LOCATION: GLADSTONE

FLUORIDATOR: W&T A-745 Ser# LDP3692

CHEMICAL: NaF 4%

OPERATOR: John Waldner

TEST KIT: Hach Spectrophotometer

TELEPHONE: Plant: 385-2017 Gar. 2789

NATURAL FLUORIDE CONTENT: 0.22

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.15	1.05	0.92	0.40	0.62	
Jan. 17 - Jan. 30	1.14	1.05	0.93	0.58	0.80	
Jan. 31 - Feb. 13	1.12	1.13	0.93	0.72	0.94	
Feb. 14 - Feb. 27	1.30	1.10	0.94	0.77	0.99	
Feb. 28 - Mar. 13	1.28	1.20	0.95	0.66	0.88	
Mar. 14 - Mar. 27	1.17	1.04	0.94	0.86	1.08	
Mar. 28 - Apr. 10	1.23	1.24	0.93	0.63	0.85	
Apr. 11 - Apr. 24	1.78	1.34	1.24	0.72	0.94	
Apr. 25 - May 8	1.18	1.23	1.20	0.74	0.96	
May 9 - May 22	1.10	1.19	1.13	0.56	0.78	
May 23 - Jun. 5	1.17	1.29	1.13	0.66	0.88	
Jun. 6 - Jun. 19	0.95	1.16	1.10	0.79	1.01	
Jun. 20 - Jul. 3	1.22	1.25	1.16	0.76	0.98	
Jul. 4 - Jul. 17	1.30	1.22	1.07	0.64	0.86	
Jul. 18 - Jul. 31	1.25	1.15	1.09	0.65	0.87	
Aug. 1 - Aug. 14	1.17	1.30	1.14	2.04	2.26	flowmeter is U/S
Aug. 15 - Aug. 28	1.23	1.20	1.18	2.77	2.99	
Aug. 29 - Sep. 11	1.35	1.10	1.19	0.52	0.74	
Sep. 12 - Sep. 25	1.22	1.20	1.18	0.64	0.86	
Sep. 26 - Oct. 9	1.18	1.17	1.18	0.64	0.86	
Oct. 10 - Oct. 23	1.35	1.30	1.18	0.53	0.75	
Oct. 24 - Nov. 6	1.18	1.18	1.18	0.54	0.76	
Nov. 7 - Nov. 20	1.13	1.18	1.16	0.54	0.76	
Nov. 21 - Dec. 4	1.28	1.20	1.17	0.53	0.75	
Dec. 5 - Dec. 18	1.14	1.17	1.17	0.54	0.76	
Dec. 19 - Jan. 1/88	1.17	1.22	1.11	1.10	1.32	
AVERAGE	1.22	1.19	1.10	0.79	1.01	
RANGE	1.0 - 1.8	1.1 - 1.3	0.9-1.2	0.4 - 2.8	0.6-3.0	
% OUTSIDE LIMITS	4%					
NO. OF SAMPLES	26	26	26	26	25	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mrs. Eleanor Gloor
Secretary-Treasurer
Town of Hartney
P.O. Box 339
Hartney, MB
R0M 0X0

Dear Mrs. Gloor:

RE: 1987 FLUORIDATION CONTROL DATA FOR HARTNEY

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for Hartney.

All of the required 26 bi-weekly composite samples were submitted. Of these, 3, or 12% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l. In two of these cases (periods 12 and 13), a calculation of the fluoride level (based on the amount of solution feed) indicates the possibility of a contaminated sample, and as such would not be representative.

Your town foreman, Mr. Bill Mychasiw, in my estimation, continues to do a very good job of maintaining the fluoride levels in the Hartney water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Bill Mychasiw

FLUORIDATION CONTROL RECORD - 1987

LOCATION: HARTNEY

FLUORIDATOR: W&T A-745

CHEMICAL: NaF 1%

OPERATOR: Bill Mychasiw

TEST KIT: Hach Spectrophotometer

TELEPHONE: Shop: 858-2076

NATURAL FLUORIDE CONTENT: 0.20

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.05	1.15	1.10	1.12	1.32	
Jan. 17 - Jan. 30	1.19	1.22	1.19	1.22	1.42	
Jan. 31 - Feb. 13	1.20	1.20	1.17	1.16	1.36	
Feb. 14 - Feb. 27	0.95	1.16	1.19	1.00	1.20	
Feb. 28 - Mar. 13	1.10	1.15	1.17	1.17	1.37	
Mar. 14 - Mar. 27	1.00	1.20	1.16	1.21	1.41	
Mar. 28 - Apr. 10	1.05	1.12	1.15	0.93	1.13	
Apr. 11 - Apr. 24	1.05	1.20	1.14	1.32	1.52	
Apr. 25 - May 8	1.17	1.15	1.17	1.27	1.47	
May 9 - May 22	1.20	1.25	1.23	1.14	1.34	
May 23 - Jun. 5	1.20	1.18	1.07	1.04	1.24	
Jun. 6 - Jun. 19	(13.5)	1.15	1.13	1.07	1.27	contaminated
Jun. 20 - Jul. 3	(12.5)	1.15	1.17	1.16	1.36	samples
Jul. 4 - Jul. 17	1.25	1.20	1.19	1.41	1.61	
Jul. 18 - Jul. 31	1.25	1.22	1.22	0.93	1.13	
Aug. 1 - Aug. 14	1.13	1.15	1.18	1.09	1.29	
Aug. 15 - Aug. 28	1.18	1.15	1.16	0.98	1.18	
Aug. 29 - Sep. 11	1.19	1.20	1.19	1.16	1.36	
Sep. 12 - Sep. 25	1.15	1.18	1.17	1.02	1.22	
Sep. 26 - Oct. 9	1.12	1.15	1.17	1.13	1.33	
Oct. 10 - Oct. 23	1.15	1.18	1.18	1.10	1.30	
Oct. 24 - Nov. 6	1.14	1.20	1.19	1.19	1.39	
Nov. 7 - Nov. 20	1.04	1.15	1.17	0.97	1.17	
Nov. 21 - Dec. 4	0.90	1.05	1.09	1.11	1.31	
Dec. 5 - Dec. 18	0.96	1.10	1.12	1.05	1.25	
Dec. 19 - Jan. 1/88	1.15	1.20	1.11	1.16	1.36	
AVERAGE	1.12	1.17	1.16	1.12	1.32	
RANGE	0.9 - 1.3	1.1 - 1.3	1.1-1.2	0.9 - 1.3	1.2-1.4	
% OUTSIDE LIMITS	12%					
NO. OF SAMPLES	26	26	26	26	26	

( ) not included in average

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Dennis Higginson
Secretary-Treasurer
Town of Killarney
P.O. Box 10
Killarney, MB
R0K 1G0

Dear Mr. Higginson:

RE: 1987 FLUORIDATION CONTROL DATA FOR KILLARNEY

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Killarney.

All of the required 26 bi-weekly composite samples were submitted. Of these, 6, or 23% contained fluoride in concentration outside the acceptable range of 1.0 to 1.4 mg/l. This represents some improvement over 1986 when 30% of the samples contained fluoride levels in concentration outside the recommended range. It is further interesting to note that the fluoride levels have all been within the correct range since August 15.

In my opinion, your Waterwork Supervisor, Mr. Carl Parker, has done a very good job of maintaining the fluoride feed equipment for the town of Killarney.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Carl Parker

FLUORIDATION CONTROL RECORD - 1987

LOCATION: KILLARNEY

FLUORIDATOR: W&T Model A-747

CHEMICAL: NaF 4%

OPERATOR: Carl Parker

TEST KIT: Hach Spectrophotometer

TELEPHONE: 523-8944

NATURAL FLUORIDE CONTENT: 0.19

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.57	1.25	1.36	1.18	1.37	
Jan. 17 - Jan. 30	1.45	1.40	1.23	0.78	0.97	
Jan. 31 - Feb. 13	1.00	1.30	1.08	0.84	1.03	
Feb. 14 - Feb. 27	1.34	1.10	1.22	0.86	1.05	
Feb. 28 - Mar. 13	1.20	1.10	1.38	0.81	1.00	
Mar. 14 - Mar. 27	0.93	1.10	1.03	0.61	0.80	
Mar. 28 - Apr. 10	0.73	1.10	0.96	0.78	0.97	
Apr. 11 - Apr. 24	1.13	1.15	1.19	0.95	1.14	
Apr. 25 - May 8	1.20	1.50	1.21	1.09	1.28	
May 9 - May 22	1.15	1.50	1.18	1.36	1.55	
May 23 - Jun. 5	1.18	-	1.18	1.04	1.23	
Jun. 6 - Jun. 19	1.60	1.80	1.80	1.20	1.39	
Jun. 20 - Jul. 3	1.58	1.25	1.34	0.99	1.18	
Jul. 4 - Jul. 17	1.45	1.35	1.34	1.08	1.27	
Jul. 18 - Jul. 31	1.18	1.25	1.21	1.07	1.26	
Aug. 1 - Aug. 14	1.50	1.40	1.25	1.06	1.25	
Aug. 15 - Aug. 28	1.37	1.25	1.24	1.12	1.31	
Aug. 29 - Sep. 11	1.19	-	1.22	0.78	0.97	
Sep. 12 - Sep. 25	1.42	1.40	1.45	0.95	1.14	
Sep. 26 - Oct. 9	1.27	1.30	1.24	0.95	1.14	
Oct. 10 - Oct. 23	1.05	-	0.98	0.90	1.09	
Oct. 24 - Nov. 6	1.30	1.30	1.26	0.75	0.94	
Nov. 7 - Nov. 20	1.25	1.30	1.20	1.07	1.26	
Nov. 21 - Dec. 4	1.08	1.00	1.10	1.08	1.27	
Dec. 5 - Dec. 18	1.18	1.25	1.14	0.98	1.17	
Dec. 19 - Jan. 1/88	1.25	1.95	1.15	0.87	1.06	
AVERAGE	1.25	1.32	1.23	0.97	1.16	
RANGE	0.7 - 1.6	1.0 - 2.0	1.0-1.8	0.6 - 1.2	0.8-1.4	
% OUTSIDE LIMITS	23%					
NO. OF SAMPLES	26	23	26	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Richard C. Locke
Secretary-Treasurer
Village of MacGregor
P.O. Box 190
MacGregor, MB
R0H 0C0

Dear Mr. Locke:

RE: 1987 FLUORIDATION CONTROL DATA FOR MACGREGOR

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Village of MacGregor.

Twenty-five of the required 26 bi-weekly composite samples were received (One sample was broken in transit). All of the samples analysed contained fluoride within the recommended range of 1.0 to 1.4 mg/l.

Your town Foreman, Mr. Brian Telford, has done an excellent job of maintaining the proper level of fluoride in the MacGregor water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Brian Telford

FLUORIDATION CONTROL RECORD - 1987

LOCATION: MACGREGOR FLUORIDATOR: W&T A-745

CHEMICAL: NaF 3% OPERATOR: Brian Telford

TEST KIT: Hach DR/3 Spectrophotometer TELEPHONE: 685-2211

NATURAL FLUORIDE CONTENT: 0.19

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.08	1.00	1.02	0.80	0.99	
Jan. 17 - Jan. 30	1.35	1.00	1.04	0.82	1.01	
Jan. 31 - Feb. 13	1.28	1.00	1.03	0.86	1.05	
Feb. 14 - Feb. 27	1.22	1.00	1.02	0.84	1.03	
Feb. 28 - Mar. 13	-	1.00	1.00	0.78	0.97	Broken in transit
Mar. 14 - Mar. 27	1.10	1.00	1.01	0.82	1.01	
Mar. 28 - Apr. 10	1.18	1.00	1.00	0.84	1.03	
Apr. 11 - Apr. 24	1.35	1.01	1.00	0.92	1.11	
Apr. 25 - May 8	1.30	1.00	1.00	0.94	1.13	
May 9 - May 22	1.25	1.00	1.00	0.80	0.99	
May 23 - Jun. 5	1.08	1.00	1.00	0.77	0.96	
Jun. 6 - Jun. 19	1.08	1.00	1.03	0.78	0.97	
Jun. 20 - Jul. 3	1.20	1.00	1.00	0.77	0.96	
Jul. 4 - Jul. 17	1.20	1.00	1.04	0.82	1.01	
Jul. 18 - Jul. 31	1.15	1.08	1.06	0.80	0.99	
Aug. 1 - Aug. 14	1.08	1.00	0.92	0.82	1.01	
Aug. 15 - Aug. 28	1.20	1.10	0.93	0.82	1.01	
Aug. 29 - Sep. 11	1.18	1.08	1.02	0.83	1.02	
Sep. 12 - Sep. 25	1.22	1.06	1.02	0.81	1.00	
Sep. 26 - Oct. 9	1.12	1.00	1.02	0.83	1.02	
Oct. 10 - Oct. 23	1.04	1.00	1.01	0.82	1.01	
Oct. 24 - Nov. 6	1.14	1.00	1.03	0.88	1.07	
Nov. 7 - Nov. 20	1.08	1.00	1.00	0.93	1.12	
Nov. 21 - Dec. 4	1.18	1.00	1.02	0.88	1.07	
Dec. 5 - Dec. 18	1.17	1.10	1.05	0.92	1.11	
Dec. 19 - Jan. 1/88	1.33	1.04	1.03	0.92	1.11	
AVERAGE	1.18	1.02	1.02	0.84	1.03	
RANGE	1.0 - 1.4	1.0 - 1.1	0.9-1.1	0.8 - 0.9	1.0-1.1	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	25	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Clifford E. Hicks
Secretary-Treasurer
Town of Melita
P.O. Box 364
Melita, MB
R0M 1L0

Dear Mr. Hicks:

RE: 1987 FLUORIDATION CONTROL DATA FOR MELITA

Attached, for review by your Mayor and Council, is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Melita.

All of the required 22 bi-weekly composite samples were submitted since the system was commissioned last February (one sample - period 25 was broken in transit). From the samples submitted, only 2, or 8% contained fluoride below the recommended range of 1.0 to 1.4 mg/l. This occurred in 2 consecutive periods last summer when flow rates had to be altered while the Melita water tower was undergoing an overhaul. There is, in my opinion, no need for concern.

This data is a good indication that your town Foreman, Mr. Elmer Pedersen and his staff are doing an excellent job of maintaining the proper fluoride level in the Melita water supply. It has been a pleasure working with them.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c Mr. Elmer Pedersen

FLUORIDATION CONTROL RECORD - 1987

LOCATION: MELITA FLUORIDATOR: W&T Saturator/

CHEMICAL: NaF 4% OPERATOR: Elmer Pederson

TEST KIT: Hach DR-3 TELEPHONE: 522-8481

NATURAL FLUORIDE CONTENT: 0.18

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87						
Jan. 17 - Jan. 30						
Jan. 31 - Feb. 13						
Feb. 14 - Feb. 27	1.14	1.22	1.23	2.09		
Feb. 28 - Mar. 13	1.18	1.32	1.30	2.64		
Mar. 14 - Mar. 27	0.97	1.15	1.19	0.81		
Mar. 28 - Apr. 10	1.18	1.20	1.23	1.10		
Apr. 11 - Apr. 24	1.20	1.25	1.29	1.24		
Apr. 25 - May 8	1.15	1.22	1.21	1.08		
May 9 - May 22	1.10	1.25	1.21	1.10		
May 23 - Jun. 5	1.00	1.20	1.18	1.00		
Jun. 6 - Jun. 19	0.96	1.20	1.19	0.94		
Jun. 20 - Jul. 3	0.95	1.10	1.13	0.89		
Jul. 4 - Jul. 17	0.97	1.10	1.12	0.99		
Jul. 18 - Jul. 31	0.92	1.15	1.15	0.94		
Aug. 1 - Aug. 14	0.91	1.10	1.13	0.84		
Aug. 15 - Aug. 28						
Aug. 29 - Sep. 11	1.23	1.30	1.32	-		
Sep. 12 - Sep. 25	1.15	1.25	1.25	1.27		
Sep. 26 - Oct. 9	0.95	1.20	1.21	1.14		
Oct. 10 - Oct. 23	1.12	1.25	1.24	1.24		
Oct. 24 - Nov. 6	1.30	1.31	1.33	1.32		
Nov. 7 - Nov. 20	1.18	1.35	1.30	1.38		
Nov. 21 - Dec. 4	1.03	1.15	1.21	1.25		
Dec. 5 - Dec. 18	-	1.22	1.18	1.33		
Dec. 19 - Jan. 1/88	1.25	1.32	1.31	1.32		
AVERAGE	1.09	1.22	1.22	1.24		
RANGE	0.9 - 1.3	1.1 - 1.4	1.1-1.3	0.8 - 2.6		
% OUTSIDE LIMITS	8%					
NO. OF SAMPLES	21	22	22	21		

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. V. K. Wishart
Secretary-Treasurer
Town of Minnedosa
P.O. Box 426
Minnedosa, MB
R0J 1E0

Dear Mr. Wishart:

RE: 1987 FLUORIDATION CONTROL DATA FOR MINNEDOSA

Attached, for review by your Mayor and Council, is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Minnedosa.

All of the required 26 bi-weekly composite samples were submitted. Of these, 5, or 19% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l.

It is my hope that with the assistance of your town Foreman, Mr. Allan Jamieson, we will, in 1988, solve the problem that results in only water from the Minnedosa #1 treatment plant being fluoridated.

Your Water Plant Operators, Mr. Frank Taylor and Mr. Bill McVey have been doing a good job of operating the existing fluoridation equipment.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Allan Jamieson
Mr. Frank Taylor/Mr. Bill McVey

FLUORIDATION CONTROL RECORD - 1987

LOCATION: MINNEDOSA

FLUORIDATOR: W&T A-417

CHEMICAL: NaF 3%

OPERATOR: Frank Taylor/Bill McVey

TEST KIT: Hach Filterphotometer

TELEPHONE: Plant: 867-2949

NATURAL FLUORIDE CONTENT: 0.28

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.05	1.00	1.12	0.61	0.89	
Jan. 17 - Jan. 30	1.08	1.10	1.11	0.76	1.04	
Jan. 31 - Feb. 13	1.14	1.15	1.17	0.65	0.93	
Feb. 14 - Feb. 27	1.08	1.15	1.10	1.05	1.33	
Feb. 28 - Mar. 13	1.12	1.05	1.14	0.72	1.00	
Mar. 14 - Mar. 27	1.20	1.20	1.16	0.83	1.11	
Mar. 28 - Apr. 10	1.19	1.20	1.17	0.87	1.15	
Apr. 11 - Apr. 24	1.20	1.20	1.26	0.88	1.16	
Apr. 25 - May 8	1.25	1.22	1.20	0.86	1.14	
May 9 - May 22	1.10	1.05	1.08	0.81	1.09	
May 23 - Jun. 5	1.07	1.10	1.13	0.92	1.20	
Jun. 6 - Jun. 19	1.10	1.05	1.01	0.69	0.97	
Jun. 20 - Jul. 3	1.25	1.35	1.22	1.05	1.33	
Jul. 4 - Jul. 17	1.06	1.40	1.35	0.97	1.25	
Jul. 18 - Jul. 31	1.11	1.30	1.37	0.76	1.04	
Aug. 1 - Aug. 14	2.00	1.50	1.29	0.93	1.21	
Aug. 15 - Aug. 28	0.92	1.10	1.20	0.60	0.88	
Aug. 29 - Sep. 11	1.07	1.30	1.17	0.63	0.91	
Sep. 12 - Sep. 25	1.48	1.40	1.35	0.84	1.12	
Sep. 26 - Oct. 9	1.00	1.25	1.26	0.52	0.80	
Oct. 10 - Oct. 23	0.89	1.30	1.10	0.64	0.92	
Oct. 24 - Nov. 6	1.00	1.10	1.19	0.68	0.96	
Nov. 7 - Nov. 20	1.04	1.05	1.30	0.68	0.96	
Nov. 21 - Dec. 4	0.83	1.25	1.21	0.70	0.98	
Dec. 5 - Dec. 18	1.18	1.40	1.18	0.53	0.81	
Dec. 19 - Jan. 1/88	1.22	-	-	-	-	
AVERAGE	1.14	1.21	1.19	0.77	1.05	
RANGE	0.8 - 2.0	1.0 - 1.5	1.0-1.3	0.5 - 1.1	0.8-1.3	
% OUTSIDE LIMITS	19%					
NO. OF SAMPLES	26	25	25	25	25	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Abe Bergmann
Secretary-Treasurer
Town of Morden
P.O. Box 2440
Morden, Manitoba
R0G 1J0

Dear Mr. Bergmann:

RE: 1987 FLUORIDATION CONTROL DATA FOR MORDEN

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Morden.

All of the required 26 bi-weekly composite samples were submitted. Of these, only 1, or 4% contained fluoride in concentration below the recommended range of 1.0 to 1.4 mg/l (three other periods from Mar 9 - June 19 not included because they involved the start up of a new pump). These results reflect on a conscientious effort on behalf of your town Foreman, Mr. Dick Kroeker to provide a good service.

Mr. Kroeker has done a very good job of maintaining the proper level of fluoride in the Morden water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Dick Kroeker

FLUORIDATION CONTROL RECORD - 1987

LOCATION: MORDEN

FLUORIDATOR: LMI B-731 pump

CHEMICAL: NaF 4%

OPERATOR: Dick Kroeker

TEST KIT: Hach Filterphotometer

TELEPHONE: Plant: 822-5707

NATURAL FLUORIDE CONTENT: 0.32

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.23	1.25	1.27	1.03	1.35	
Jan. 17 - Jan. 30	1.24	1.20	1.16	1.05	1.37	
Jan. 31 - Feb. 13	1.27	1.00	1.05	1.12	1.44	
Feb. 14 - Feb. 27	1.17	0.95	1.08	1.19	1.51	
Feb. 28 - Mar. 13	1.00	0.90	1.00	0.85	1.17	
Mar. 14 - Mar. 27	1.17	0.95	0.92	1.13	1.45	
Mar. 28 - Apr. 10	1.30	1.20	1.18	0.70	1.02	
Apr. 11 - Apr. 24	1.00	1.05	0.98	0.87	1.19	
Apr. 25 - May 8	1.00	1.15	1.15	0.70	1.02	
May 9 - May 22	(0.72)	0.70	0.75	0.60	0.92	Starting
May 23 - Jun. 5	(0.74)	0.80	0.65	0.71	1.03	new
Jun. 6 - Jun. 19	(0.80)	0.80	0.80	0.60	0.92	feeder
Jun. 20 - Jul. 3	0.95	0.85	0.93	0.67	0.99	
Jul. 4 - Jul. 17	1.12	0.95	0.91	0.74	1.06	
Jul. 18 - Jul. 31	1.07	0.95	1.03	0.75	1.07	
Aug. 1 - Aug. 14	1.08	1.00	1.00	0.77	1.09	
Aug. 15 - Aug. 28	1.03	0.90	0.94	0.79	1.11	
Aug. 29 - Sep. 11	1.10	0.90	0.90	0.80	1.12	
Sep. 12 - Sep. 25	1.15	1.05	1.03	0.90	1.22	
Sep. 26 - Oct. 9	1.08	0.90	0.84	0.78	1.10	
Oct. 10 - Oct. 23	1.07	0.90	0.99	1.07	1.39	
Oct. 24 - Nov. 6	1.08	0.95	0.93	2.15	2.47	
Nov. 7 - Nov. 20	1.08	0.95	0.91	0.78	1.10	
Nov. 21 - Dec. 4	1.00	0.95	0.87	0.95	1.27	
Dec. 5 - Dec. 18	0.80	0.80	0.73	0.80	1.12	
Dec. 19 - Jan. 1/88	1.00	0.90	0.86	0.94	1.26	
AVERAGE	1.05	0.96	0.96	0.90	1.22	
RANGE	0.7 - 1.3	0.7 - 1.3	0.7-1.3	0.6 - 2.2	0.9-2.5	
% OUTSIDE LIMITS	4%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Dale Lyle
Secretary-Treasurer
Town of Neepawa
P.O. Box 339
Neepawa, MB
R0J 1H0

Dear Mr. Lyle:

RE: 1987 FLUORIDATION CONTROL DATA FOR NEEPAWA

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Neepawa.

Twenty-five of the 26 bi-weekly composite samples were received (one sample was broken in transit). All of the samples analysed contained fluoride in concentrations within the recommended range of 1.0 to 1.4 mg/l.

Mr. George Squires, the Waterworks Supervisor and his staff have done an excellent job of maintaining the proper level of fluoride in the Neepawa water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. George Squires

FLUORIDATION CONTROL RECORD - 1987

LOCATION: NEEPAWA FLUORIDATOR: W&T A-690

CHEMICAL: Na 2Sif6 (Dry) OPERATOR: George Squires

TEST KIT: Hach DR-2 Spectrophotometer TELEPHONE: 476-5331

NATURAL FLUORIDE CONTENT: 0.24

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.07	1.10	1.11	0.82	1.13	
Jan. 17 - Jan. 30	1.15	1.10	1.11	0.96	1.23	
Jan. 31 - Feb. 13	1.12	1.10	1.13	1.02	1.26	
Feb. 14 - Feb. 27	1.13	1.10	1.10	1.14	1.45	
Feb. 28 - Mar. 13	1.04	1.10	1.14	0.83	1.13	
Mar. 14 - Mar. 27	-	1.10	1.07	0.90	1.14	lost sample
Mar. 28 - Apr. 10	1.18	1.10	1.13	1.03	1.35	
Apr. 11 - Apr. 24	1.25	1.10	1.14	1.22	1.46	
Apr. 25 - May 8	1.25	1.20	1.16	1.13	1.37	
May 9 - May 22	1.05	1.00	1.07	0.99		
May 23 - Jun. 5	1.20	1.10	1.14	1.19	1.43	
Jun. 6 - Jun. 19	1.28	1.10	1.12	1.26	1.49	
Jun. 20 - Jul. 3	1.18	1.10	1.09	1.06	1.29	
Jul. 4 - Jul. 17	1.15	1.10	1.12	1.01	1.24	
Jul. 18 - Jul. 31	1.05	1.10	1.11	1.08	1.31	
Aug. 1 - Aug. 14	1.05	1.10	1.12	1.03	1.26	
Aug. 15 - Aug. 28	1.04	1.09	1.10	1.03	1.25	
Aug. 29 - Sep. 11	1.18	1.15	1.14	1.02	1.26	
Sep. 12 - Sep. 25	1.05	1.10	1.11	1.09	1.30	
Sep. 26 - Oct. 9	1.04	1.04	1.04	1.06	1.31	
Oct. 10 - Oct. 23	1.18	1.10	1.13	1.01	1.33	
Oct. 24 - Nov. 6	1.00	1.10	1.10	1.07	1.30	
Nov. 7 - Nov. 20	1.08	1.10	1.08	1.12	1.36	
Nov. 21 - Dec. 4	1.17	1.10	1.15	1.21	1.44	
Dec. 5 - Dec. 18	1.00	1.15	1.16	1.02	1.52	
Dec. 19 - Jan. 1/88	1.14	1.10	1.12	1.00	1.25	
AVERAGE	1.12	1.10	1.12	1.05	1.31	
RANGE	1.0 - 1.3	1.0 - 1.2	1.1-1.2	0.8 - 1.3	1.1-1.5	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	25	26	26	26	25	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Robert A. Dale
Resident Administrator
L.G.D. of Pinawa
P.O. Box 100
Pinawa, MB
R0E 1L0

Dear Mr. Dale:

RE: 1987 FLUORIDATION CONTROL DATA FOR PINAWA

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the L.G.D. of Pinawa.

Twenty-five of the required 26 bi-weekly composite samples were submitted. Of these, 6, or 24% contained fluoride in concentration below the recommended range. This occurred because your Water Plant Operator, Mr. Ron McDowall was unaware that the optimum fluoride level had been raised from 1.0 to 1.2 mg/l. Since being informed last October, Mr. McDowall has kept the fluoride levels of the treated water within the proper range.

Mr. McDowall has done a very good job of maintaining the fluoride levels in the Pinawa water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Ron McDowall

FLUORIDATION CONTROL RECORD - 1987

LOCATION: PINAWA

FLUORIDATOR: W&T A-690 Ser# LD 3829

CHEMICAL: Na2SiF6

OPERATOR: Ron McDowall

TEST KIT: Hach Spectrophotometer

TELEPHONE: Plant: 753-2542

NATURAL FLUORIDE CONTENT: 0.08

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.04	1.05	1.05	0.63	0.71	
Jan. 17 - Jan. 30	0.97	1.08	1.08	0.85	0.93	
Jan. 31 - Feb. 13	0.95	1.09	1.09	0.81	0.89	
Feb. 14 - Feb. 27	0.98	1.03	1.03	0.79	0.87	
Feb. 28 - Mar. 13	0.86	0.98	0.99	0.73	0.81	
Mar. 14 - Mar. 27	1.00	-	-	0.74	0.82	
Mar. 28 - Apr. 10	1.00	0.95	0.96	0.83	0.91	
Apr. 11 - Apr. 24	0.96	0.98	0.99	0.73	0.81	
Apr. 25 - May 8	0.85	0.85	0.88	0.53	0.61	
May 9 - May 22	0.90	1.03	1.03	0.67	0.75	
May 23 - Jun. 5	1.20	1.10	1.11	0.74	0.82	
Jun. 6 - Jun. 19	1.15	-	0.96	0.60	0.68	
Jun. 20 - Jul. 3	0.92	1.10	1.11	0.69	0.77	
Jul. 4 - Jul. 17	0.98	0.98	0.98	0.83	0.91	
Jul. 18 - Jul. 31	1.10	1.00	1.00	0.79	0.87	
Aug. 1 - Aug. 14	1.45	1.16	1.17	0.89	0.97	
Aug. 15 - Aug. 28	1.09	0.92	0.92	0.81	0.89	
Aug. 29 - Sep. 11	0.91	0.96	0.96	0.77	0.85	
Sep. 12 - Sep. 25	0.93	0.84	0.86	0.70	0.78	
Sep. 26 - Oct. 9	-	1.10	1.22	1.00	1.08	
Oct. 10 - Oct. 23	1.10	0.98	0.98	1.03	1.11	
Oct. 24 - Nov. 6	1.15	1.04	1.05	1.02	1.10	
Nov. 7 - Nov. 20	1.24	1.00	1.01	1.04	1.12	
Nov. 21 - Dec. 4	1.28	1.12	1.13	1.04	1.12	
Dec. 5 - Dec. 18	1.24	1.07	1.05	1.02	1.10	
Dec. 19 - Jan. 1/88	1.06	1.02	1.00	1.01	1.09	
AVERAGE	1.05	0.98	1.02	0.82	0.90	
RANGE	0.9 - 1.4	0.8 - 1.2	0.9-1.2	0.5 - 1.0	0.6-1.1	
% OUTSIDE LIMITS	24%					
NO. OF SAMPLES	25	25	25	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Blayne Rennick
City Manager
City of Portage la Prairie
P.O. Box 490
Portage la Prairie, MB
R1N 3C1

Dear Mr. Rennick:

RE: 1987 FLUORIDATION CONTROL DATA FOR PORTAGE LA PRAIRIE

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the City of Portage la Prairie.

All of the required 26 bi-weekly composite samples were submitted. All contained fluoride in concentration within the recommended range of 1.0 to 1.4 mg/l.

Mr. Dave Pirt, your Waterworks Superintendent and his staff have once again done an excellent job of maintaining the proper fluoride level in the Portage la Prairie water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Dave Pirt

FLUORIDATION CONTROL RECORD - 1987

LOCATION: PORTAGE LA PRAIRIE

FLUORIDATOR: W&T A-690 Ser# LDF 20089

CHEMICAL: Na2 Sif6 (Dry)

OPERATOR: Dave Pirt

TEST KIT: Specific Ion Electrode

TELEPHONE: Plant: 857-9781

NATURAL FLUORIDE CONTENT: 0.20

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.25	1.18	1.17	0.83	1.03	
Jan. 17 - Jan. 30	1.37	1.40	1.27	0.85	1.05	
Jan. 31 - Feb. 13	1.20	1.21	1.23	0.82	1.02	
Feb. 14 - Feb. 27	1.20	1.22	1.17	0.81	1.01	
Feb. 28 - Mar. 13	1.23	1.31	1.26	0.91	1.11	
Mar. 14 - Mar. 27	1.00	1.11	0.99	0.68	0.88	
Mar. 28 - Apr. 10	1.30	1.31	1.34	0.87	1.07	
Apr. 11 - Apr. 24	1.08	1.11	1.23	0.71	0.91	
Apr. 25 - May 8	1.00	1.11	1.20	0.82	1.02	
May 9 - May 22	1.05	1.10	1.22	0.81	1.01	
May 23 - Jun. 5	1.08	1.18	1.15	0.86	1.06	
Jun. 6 - Jun. 19	1.08	1.14	1.12	0.88	1.08	
Jun. 20 - Jul. 3	1.27	1.20	1.20	0.88	1.08	
Jul. 4 - Jul. 17	1.32	1.28	1.17	0.98	1.18	
Jul. 18 - Jul. 31	1.25	1.20	1.19	1.01	1.21	
Aug. 1 - Aug. 14	1.28	1.28	1.22	0.95	1.15	
Aug. 15 - Aug. 28	1.14	1.34	1.24	0.89	1.09	
Aug. 29 - Sep. 11	1.09	1.22	1.07	0.83	1.03	
Sep. 12 - Sep. 25	1.25	1.18	1.10	0.94	1.14	
Sep. 26 - Oct. 9	1.18	1.21	1.07	0.90	1.10	
Oct. 10 - Oct. 23	1.18	1.22	1.24	0.88	1.08	
Oct. 24 - Nov. 6	1.20	1.12	1.03	0.84	1.04	
Nov. 7 - Nov. 20	1.10	1.23	1.14	0.98	1.18	
Nov. 21 - Dec. 4	1.10	1.15	1.14	0.78	0.98	
Dec. 5 - Dec. 18	1.23	1.36	1.24	0.84	1.04	
Dec. 19 - Jan. 1/88	1.30	1.35	1.25	0.88	1.08	
AVERAGE	1.18	1.22	1.18	0.86	1.06	
RANGE	1.0 - 1.4	1.1 - 1.4	1.0-1.3	0.7 - 1.0	0.9-1.2	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mrs. J. Kozak
Secretary-Treasurer
Town of Rivers
P.O. Box 520
Rivers, MB
R0K 1X0

Dear Mrs. Kozak:

RE: 1987 FLUORIDATION CONTROL DATA FOR RIVERS

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Rivers.

All of the required 26 bi-weekly composite samples were submitted. Of these, 10, or 38% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l. This represents an improvement over 1986 when 80% of the samples contained fluoride in concentration outside the recommended range over a 10 week operating period.

I feel that further improvement could be achieved if the operators could find more time to spend on the system. Fluoride systems normally require from 20 to 30 minutes per day for the test and a routine check of the equipment.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Jeff Worth
Mr. Laverne Pickering

FLUORIDATION CONTROL RECORD - 1987

LOCATION: RIVERS

FLUORIDATOR: LMI Saturator, A-111-91T pump

CHEMICAL: 4% NaF

OPERATOR: Jeff Worth

TEST KIT: Hach DR-2 Spectrophotometer

TELEPHONE: 328-7480

NATURAL FLUORIDE CONTENT: 0.18

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.42	1.50	1.23	3.62	3.80	
Jan. 17 - Jan. 30	1.70	1.60	1.55	2.60	2.78	
Jan. 31 - Feb. 13	1.70	1.40	1.58	2.25	2.43	
Feb. 14 - Feb. 27	1.90	1.60	1.45	1.04	1.22	
Feb. 28 - Mar. 13	1.55	1.45	1.33	2.18	2.36	
Mar. 14 - Mar. 27	1.00	1.20	1.07	0.84	1.02	
Mar. 28 - Apr. 10	1.00	1.00	1.02	0.72	0.90	
Apr. 11 - Apr. 24	1.03	1.10	1.07	0.74	0.92	
Apr. 25 - May 8	1.42	1.10	1.11	1.11	1.33	
May 9 - May 22	1.50	1.10	1.22	1.18	1.36	
May 23 - Jun. 5	1.45	1.20	1.18	1.08	1.26	
Jun. 6 - Jun. 19	1.35	1.20	1.15	1.09	1.27	
Jun. 20 - Jul. 3	1.20	1.30	1.26	0.83	1.01	
Jul. 4 - Jul. 17	1.27	1.00	1.29	0.82	1.00	
Jul. 18 - Jul. 31	1.25	1.20	1.24	0.89	1.07	
Aug. 1 - Aug. 14	1.35	1.20	1.16	0.91	1.09	
Aug. 15 - Aug. 28	1.45	1.30	1.15	1.08	1.26	
Aug. 29 - Sep. 11	1.44	1.10	1.14	1.05	1.23	
Sep. 12 - Sep. 25	1.47	1.30	1.16	1.12	1.30	
Sep. 26 - Oct. 9	1.50	1.30	1.21	1.26	1.44	
Oct. 10 - Oct. 23	1.50	1.35	1.27	1.29	1.47	
Oct. 24 - Nov. 6	1.14	0.80	1.06	1.04	1.22	
Nov. 7 - Nov. 20	0.70	0.90	0.89	0.43	0.61	
Nov. 21 - Dec. 4	0.74	0.90	0.86	0.57	0.75	
Dec. 5 - Dec. 18	0.95	1.00	1.01	0.60	0.78	
Dec. 19 - Jan. 1/88	1.23	1.25	1.20	0.92	1.10	
AVERAGE	1.32	1.21	1.18	1.20	1.38	
RANGE	0.7 - 1.9	0.8 - 1.6	0.9-1.6	0.4 - 3.6	0.6-3.8	
% OUTSIDE LIMITS	38%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Douglas Frost-Hunt
Secretary-Treasurer
Town of Roblin
Roblin, MB
RØL 1PØ

Dear Mr. Frost-Hunt:

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Roblin.

Twenty-five of the required 26 bi-weekly composite samples were submitted. Of these, 7, or 28% contained fluoride below the recommended range of 1.Ø to 1.4 mg/l (the sample from period 22 should be disregarded since a calculation based on the amount of fluoride solution fed does not coincide with the high result. This is verified by the operator's reading). There should be no concern for the slightly low readings since they occurred during experimental trials with your new well system. As such, this does not represent an ongoing problem.

Your Water Treatment Plant Supervisor, Mr. Nick Holopina and his staff have done an excellent job of maintaining the fluoride feed equipment for the town of Roblin. They have been a pleasure to work with.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Nick Holopina and staff

FLUORIDATION CONTROL RECORD - 1987

LOCATION: ROBLIN

FLUORIDATOR: W&T A-745 Ser# LDP 313

CHEMICAL: NaF 4%

OPERATOR: Nick Holopina

TEST KIT: Hach Spectrophotometer

TELEPHONE: Plant: 937-2377

NATURAL FLUORIDE CONTENT: 0.26

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.18	-	1.12	0.79	1.05	
Jan. 17 - Jan. 30	1.19	1.05	1.08	0.89	1.15	
Jan. 31 - Feb. 13	1.30	1.20	1.18	1.06	1.32	
Feb. 14 - Feb. 27	1.25	1.20	1.17	0.79	1.05	
Feb. 28 - Mar. 13	1.20	1.20	1.17	0.83	1.09	
Mar. 14 - Mar. 27	-	1.20	1.17	0.86	1.12	
Mar. 28 - Apr. 10	1.00	1.15	1.09	0.79	1.05	
Apr. 11 - Apr. 24	1.03	1.10	1.06	0.72	0.98	
Apr. 25 - May 8	1.05	1.10	1.08	0.77	1.03	
May 9 - May 22	0.78	1.10	1.08	0.96	1.22	
May 23 - Jun. 5	1.12	1.05	1.04	0.88	1.14	
Jun. 6 - Jun. 19	0.75	1.00	0.99	1.08	1.34	
Jun. 20 - Jul. 3	1.10	1.10	1.09	0.77	1.03	
Jul. 4 - Jul. 17	1.16	1.20	1.18	0.79	1.05	
Jul. 18 - Jul. 31	1.00	1.15	1.16	0.77	1.03	
Aug. 1 - Aug. 14	0.92	0.95	1.04	0.92	1.18	
Aug. 15 - Aug. 28	0.70	0.90	0.90	0.74	1.00	
Aug. 29 - Sep. 11	1.23	1.25	1.21	1.49	1.75	
Sep. 12 - Sep. 25	0.92	1.05	1.01	1.01	1.27	
Sep. 26 - Oct. 9	1.18	1.20	1.25	0.95	1.21	
Oct. 10 - Oct. 23	1.10	1.10	1.07	0.75	1.01	
Oct. 24 - Nov. 6	3.90	1.15	1.14	0.89	1.15	contaminated samp
Nov. 7 - Nov. 20	1.05	0.90	1.04	1.06	1.32	
Nov. 21 - Dec. 4	0.94	0.90	1.02	0.87	1.13	
Dec. 5 - Dec. 18	0.92	1.10	1.02	0.72	0.98	
Dec. 19 - Jan. 1/88	1.00	1.00	1.04	0.76	1.02	
AVERAGE	1.04	1.09	1.09	0.88	1.14	
RANGE	0.7 - 1.3	0.9 - 1.3	0.9-1.3	0.7 - 1.5	1.0-1.8	
% OUTSIDE LIMITS	28%					
NO. OF SAMPLES	25	25	26	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Walter Swereda
Secretary-Treasurer
Village of Shoal Lake
P.O. Box 342
Shoal Lake, MB
R0J 1Z0

Dear Mr. Swereda:

RE: 1987 FLUORIDATION CONTROL DATA FOR SHOAL LAKE

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Village of Shoal Lake.

All of the required 22 bi-weekly composite samples were submitted. Of these, 3, or 15% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l.

Your Waterworks Supervisor, Mr. Johnny Michasiw has done a very good job of maintaining the proper fluoride levels in the Shoal Lake water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Johnny W.A. Michasiw

FLUORIDATION CONTROL RECORD - 1987

LOCATION: SHOAL LAKE

FLUORIDATOR: W&T Saturator/Chempulse 45 series pump

CHEMICAL: NaF - 4%

OPERATOR: Johnny W.A. Michasiw

TEST KIT: Hach Dr-3 Spectrophotometer

TELEPHONE: 759-2522

NATURAL FLUORIDE CONTENT: 0.27

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87						
Jan. 17 - Jan. 30						
Jan. 31 - Feb. 13						
Feb. 14 - Feb. 27						
Feb. 28 - Mar. 13	0.77*	1.16	1.08			
Mar. 14 - Mar. 27	0.72*	1.30	1.21	1.24	1.51	
Mar. 28 - Apr. 10	1.35	1.11	1.32	1.21	1.48	
Apr. 11 - Apr. 24	1.00	1.17	1.18	0.95	1.22	
Apr. 25 - May 8	0.96	1.05	1.12	1.05	1.32	
May 9 - May 22	1.15	1.05	1.14	1.05	1.32	
May 23 - Jun. 5	0.88	1.35	1.04	1.15	1.42	
Jun. 6 - Jun. 19	0.93	1.05	1.04	1.17	1.44	
Jun. 20 - Jul. 3	1.15	1.06	1.04	1.04	1.31	
Jul. 4 - Jul. 17	1.25	1.05	1.08	1.00	1.27	
Jul. 18 - Jul. 31	1.10	1.10	1.05	1.04	1.31	
Aug. 1 - Aug. 14	1.25	1.10	1.08	1.02	1.29	
Aug. 15 - Aug. 28	1.23	1.10	1.10	0.92	1.19	
Aug. 29 - Sep. 11	1.24	1.20	1.15	0.94	1.21	
Sep. 12 - Sep. 25	1.25	1.20	1.15	0.93	1.20	
Sep. 26 - Oct. 9	1.57	1.20	1.18	0.93	1.20	
Oct. 10 - Oct. 23	1.08	1.10	1.14	0.88	1.15	
Oct. 24 - Nov. 6	0.95	1.10	1.06	0.88	1.15	
Nov. 7 - Nov. 20	1.18	1.15	1.04	0.95	1.22	
Nov. 21 - Dec. 4	1.12	1.15	1.06	0.77	1.04	
Dec. 5 - Dec. 18	1.38	1.18	1.08	0.89	1.16	
Dec. 19 - Jan. 1/88	1.28	1.05	1.05	0.92	1.19	
AVERAGE	1.17	1.13	1.11	0.98	1.25	
RANGE	0.9 - 1.6	1.1 - 1.4	1.0-1.3	0.8 - 1.2	1.0-1.5	
% OUTSIDE LIMITS	15%					
NO. OF SAMPLES	20	20	20	20	20	

* start up period does not represent full operation

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Lionel E. Dane
Secretary-Treasurer
Town of Souris
P.O. Box 518
Souris, MB
R0K 2C0

Dear Mr. Dane:

RE: 1987 FLUORIDATION CONTROL DATA FOR SOURIS

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Souris.

All of the required 26 bi-weekly composite samples were submitted (one sample - period 14, was broken in transit). All of the samples analysed contained fluoride within the recommended range of 1.0 to 1.4 mg/l.

The Water Plant Supervisor, Mr. Bill Zander and his assistant Mr. Don Bodin have once again done an excellent job of maintaining the proper amount of fluoride in the Souris water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Bill Zander/Mr. Don Bodin

FLUORIDATION CONTROL RECORD - 1987

LOCATION: SOURIS

FLUORIDATOR: W&T A-747

CHEMICAL: NaF 3%

OPERATOR: W.J. Zander

TEST KIT: Hach DR-1 Colormeter/PH meter

TELEPHONE: Plant: 483-3096

NATURAL FLUORIDE CONTENT: 0.19

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.20	1.15	1.15	1.22	1.41	
Jan. 17 - Jan. 30	1.10	1.15	1.20	1.15	1.34	
Jan. 31 - Feb. 13	1.20	1.32	1.26	1.14	1.33	
Feb. 14 - Feb. 27	1.25	1.23	1.31	1.02	1.21	
Feb. 28 - Mar. 13	1.18	1.32	1.23	1.11	1.30	
Mar. 14 - Mar. 27	1.32	1.33	1.37	1.19	1.38	
Mar. 28 - Apr. 10	1.20	1.30	1.21	1.19	1.38	
Apr. 11 - Apr. 24	1.15	1.25	1.32	1.03	1.22	
Apr. 25 - May 8	1.25	1.25	1.22	1.16	1.35	
May 9 - May 22	1.15	1.15	1.27	1.12	1.31	
May 23 - Jun. 5	1.20	1.32	1.22	1.13	1.32	
Jun. 6 - Jun. 19	0.96	1.30	1.25	1.28	1.47	
Jun. 20 - Jul. 3	1.10	1.08	1.23	0.93	1.12	
Jul. 4 - Jul. 17	-	1.22	1.25	0.91	1.10	Broken in transit
Jul. 18 - Jul. 31	1.10	1.10	1.19	0.44	0.63	
Aug. 1 - Aug. 14	1.00	1.13	1.09	0.71	0.90	
Aug. 15 - Aug. 28	1.23	1.18	1.21	0.92	1.11	
Aug. 29 - Sep. 11	1.30	1.30	1.25	1.14	1.33	
Sep. 12 - Sep. 25	1.35	1.24	1.20	0.99	1.18	
Sep. 26 - Oct. 9	1.32	1.20	1.20	1.27	1.46	
Oct. 10 - Oct. 23	1.29	1.10	1.22	1.36	1.55	
Oct. 24 - Nov. 6	1.25	1.20	1.20	1.26	1.45	
Nov. 7 - Nov. 20	1.18	1.45	1.26	0.82	1.01	
Nov. 21 - Dec. 4	1.38	1.40	1.31	1.24	1.43	
Dec. 5 - Dec. 18	1.09	1.20	1.26	1.04	1.23	
Dec. 19 - Jan. 1/88	1.03	1.20	1.19	1.00	1.19	
AVERAGE	1.19	1.23	1.23	1.07	1.26	
RANGE	1.0 - 1.4	1.1 - 1.5	1.1-1.4	0.8 - 1.4	0.6-1.6	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	25	26	26	26	26	

Manitoba

Health | Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mrs. Marlene Bouchard
Secretary-Treasurer
Village of Ste. Rose du Lac
P.O. Box 445
Ste. Rose du Lac, MB
RØL 1SØ

Dear Mrs. Bouchard:

RE: 1987 FLUORIDATION CONTROL FOR STE. ROSE DU LAC

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Village of Ste. Rose du Lac.

All of the required 6 bi-weekly composite samples were submitted since the plant start-up period.

Your Waterworks Supervisor, Mr. Don Luke, has done a very good job of operating the fluoride system for the Village of Ste. Rose du Lac to date.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Don Luke

FLUORIDATION CONTROL RECORD - 1987

LOCATION: STE. ROSE DU LAC

FLUORIDATOR: LMI - A741

CHEMICAL: NaF 4%

OPERATOR: Don Luke

TEST KIT: Hach DR-3

TELEPHONE: 447-2675

NATURAL FLUORIDE CONTENT: 0.12

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87						
Jan. 17 - Jan. 30						
Jan. 31 - Feb. 13						
Feb. 14 - Feb. 27						
Feb. 28 - Mar. 13						
Mar. 14 - Mar. 27						
Mar. 28 - Apr. 10						
Apr. 11 - Apr. 24						
Apr. 25 - May 8						
May 9 - May 22						
May 23 - Jun. 5						
Jun. 6 - Jun. 19						
Jun. 20 - Jul. 3						
Jul. 4 - Jul. 17						
Jul. 18 - Jul. 31						
Aug. 1 - Aug. 14						
Aug. 15 - Aug. 28						
Aug. 29 - Sep. 11						
Sep. 12 - Sep. 25						
Sep. 26 - Oct. 9						
Oct. 10 - Oct. 23	0.69*		0.81	1.16	1.28	start period
Oct. 24 - Nov. 6	1.15	1.18	0.86	0.93	1.05	
Nov. 7 - Nov. 20	1.06	1.00	1.19	0.90	1.02	
Nov. 21 - Dec. 4	1.27	1.24	1.12	0.79	0.91	
Dec. 5 - Dec. 18	1.17	1.02	1.01	0.96	1.08	
Dec. 19 - Jan. 1/88	1.24					
AVERAGE	1.18	1.11	1.05	0.90	1.02	
RANGE	1.1 - 1.3	1.0 - 1.2	0.9-1.2	0.8 - 1.0	0.9-1.1	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	5	4	4	4	4	

* start period does not respresent full operation

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Jack Kehler
Secretary-Treasurer
Town of Steinbach
P.O. Box 1090
Steinbach, MB
R0A 2A0

Dear Mr. Kehler:

RE: 1987 FLUORIDATION CONTROL DATA FOR STEINBACH

Attached, for review by your Mayor and Council is a data sheet representing the 1987 Water Fluoridation Program for the Town of Steinbach.

All of the required 26 bi-weekly composite samples were submitted (One sample - period 6 was broken in transit). All of the samples analysed containd fluoride within the recommended range of 1.0 to 1.4 mg/l.

The Water Plant Operator, Mr. Ross Klassen has once again done an excellent job of maintaining the fluoride levels in the Steinbach water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Bernie Doerksen
Mr. Ross Klassen

FLUORIDATION CONTROL RECORD - 1987

LOCATION: STEINBACH

FLUORIDATOR: W&T A-747

CHEMICAL: NaF 3%

OPERATOR: Ross Klassen

TEST KIT: Hach Spectrophotometer

TELEPHONE: 326-9877

NATURAL FLUORIDE CONTENT: 0.39

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.20	1.18	1.18	0.80	1.19	
Jan. 17 - Jan. 30	1.20	1.19	1.19	0.89	1.28	
Jan. 31 - Feb. 13	1.27	1.20	1.21	1.09	1.48	
Feb. 14 - Feb. 27	1.30	1.23	1.24	0.61	1.00	
Feb. 28 - Mar. 13	1.17	1.17	1.18	0.66	1.05	
Mar. 14 - Mar. 27	-	1.12	1.12	0.72	1.11	
Mar. 28 - Apr. 10	1.18	1.17	1.17	0.66	1.05	
Apr. 11 - Apr. 24	1.10	1.22	1.16	0.76	1.15	
Apr. 25 - May 8	1.15	1.11	1.11	0.61	1.00	
May 9 - May 22	0.93	1.03	1.04	0.71	1.10	
May 23 - Jun. 5	1.17	1.18	1.11	0.65	1.04	
Jun. 6 - Jun. 19	1.12	1.13	1.13	0.68	1.07	
Jun. 20 - Jul. 3	1.08	1.15	1.15	0.73	1.12	
Jul. 4 - Jul. 17	1.20	1.10	1.10	0.78	1.17	
Jul. 18 - Jul. 31	1.11	1.12	1.12	0.75	1.14	
Aug. 1 - Aug. 14	1.08	1.11	1.11	0.77	1.16	
Aug. 15 - Aug. 28	1.14	1.07	1.08	0.65	1.04	
Aug. 29 - Sep. 11	1.08	1.06	1.07	0.69	1.08	
Sep. 12 - Sep. 25	1.05	1.09	1.10	0.79	1.18	
Sep. 26 - Oct. 9	1.04	1.12	1.12	0.78	1.17	
Oct. 10 - Oct. 23	1.07	1.07	1.07	0.72	1.11	
Oct. 24 - Nov. 6	1.18	1.09	1.12	0.86	1.25	
Nov. 7 - Nov. 20	1.20	1.13	1.15	0.81	1.20	
Nov. 21 - Dec. 4	1.18	1.14	1.14	0.81	1.20	
Dec. 5 - Dec. 18	1.22	1.14	1.15	0.86	1.25	
Dec. 19 - Jan. 1/88	1.30	1.19	1.19	0.86	1.25	
AVERAGE	1.15	1.14	1.14	0.76	1.15	
RANGE	0.9 - 1.3	1.1 - 1.2	1.0-1.2	0.6 - 1.1	1.0-1.5	
% OUTSIDE LIMITS	4%					
NO. OF SAMPLES	25	26	26	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Harry Showdra
Secretary-Treasurer
Town of Swan River
P.O. Box 879
Swan River, MB
RØL 1ZØ

Dear Mr. Showdra:

RE: 1987 FLUORIDATION CONTROL DATA FOR SWAN RIVER

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Swan River.

All of the required 26 bi-weekly composite samples were submitted. Of these, 5, or 19% contained fluoride outside the recommended range of 1.0 to 1.4 mg/l.

Your Water Plant Operators, Mr. Mel Phillips and Mr. Larry Lemon have done a good job of maintaining the fluoridation equipment for the Town of Swan River.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Dick Sopotyk
Mr. Mel Phillips/Mr. Larry Lemon

FLUORIDATION CONTROL RECORD - 1987

LOCATION: SWAN RIVER

FLUORIDATOR: W&T 44-222 Ser.# Y406251

CHEMICAL: NaF 3%

OPERATOR: Larry Lemon/Mel Phillips

TEST KIT: Hach Spectrophotometer

TELEPHONE: 734-4628

NATURAL FLUORIDE CONTENT: 0.18

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	0.78	1.10	1.07	1.02	1.20	
Jan. 17 - Jan. 30	1.48	1.20	1.21	1.21	1.39	
Jan. 31 - Feb. 13	1.20	1.20	1.25	1.38	1.56	
Feb. 14 - Feb. 27	1.10	1.20	1.20	1.46	1.64	
Feb. 28 - Mar. 13	1.08	1.20	1.16	1.44	1.62	
Mar. 14 - Mar. 27	0.98	1.20	1.20	0.95	1.13	
Mar. 28 - Apr. 10	1.35	1.30	1.26	1.32	1.50	
Apr. 11 - Apr. 24	0.96	1.10	1.09	1.05	1.23	
Apr. 25 - May 8	1.13	1.20	1.20	1.32	1.50	
May 9 - May 22	1.30	1.20	1.21	1.10	1.28	
May 23 - Jun. 5	1.50	1.20	1.18	1.13	1.31	
Jun. 6 - Jun. 19	1.18	1.20	1.19	1.07	1.25	
Jun. 20 - Jul. 3	0.88	1.10	1.01	0.84	1.02	
Jul. 4 - Jul. 17	0.95	1.10	1.10	1.12	1.30	
Jul. 18 - Jul. 31	1.25	1.30	1.26	1.27	1.45	
Aug. 1 - Aug. 14	1.08	1.10	1.11	1.32	1.50	
Aug. 15 - Aug. 28	1.08	1.15	1.20	1.20	1.38	
Aug. 29 - Sep. 11	1.25	1.25	1.18	1.17	1.35	
Sep. 12 - Sep. 25	1.15	1.20	1.15	1.30	1.48	
Sep. 26 - Oct. 9	1.08	1.10	1.10	1.17	1.35	
Oct. 10 - Oct. 23	0.95	1.10	1.07	1.21	1.39	
Oct. 24 - Nov. 6	1.09	1.10	1.07	1.18	1.36	
Nov. 7 - Nov. 20	1.13	1.20	1.17	1.24	1.42	
Nov. 21 - Dec. 4	0.80	1.20	1.10	1.28	1.46	
Dec. 5 - Dec. 18	1.00	1.00	1.05	1.23	1.41	
Dec. 19 - Jan. 1/88	1.07	1.10	1.10	1.30	1.48	
AVERAGE	1.11	1.17	1.15	1.20	1.38	
RANGE	0.8 - 1.5	1.0 - 1.3	1.0-1.3	0.8 - 1.5	1.0-1.6	
% OUTSIDE LIMITS	19%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. A. Moule
Municipal Administrator
Town of The Pas
P.O. Box 870
The Pas, MB
R9A 1K8

Dear Mr. Moule:

RE: 1987 FLUORIDATION CONTROL DATA FOR THE PAS

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of The Pas.

All of the required 26 bi-weekly composite samples were submitted. All of these contained fluoride within the recommended level of 1.0 to 1.4 mg/l.

Your Waterworks Supervisor, Mr. Russ Yachiw and his staff have once again done an excellent job of maintaining the proper fluoride concentration in The Pas water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Russ Yachiw

FLUORIDATION CONTROL RECORD - 1987

LOCATION: THE PAS

FLUORIDATOR: W&T Series 32-050 Ser# LDF 20252

CHEMICAL: Na2 Sif6 (Dry)

OPERATOR: Russ Yachiw

TEST KIT: Hach DR/1 Colormeter/PH Meter

TELEPHONE: Plant: 623-6338

NATURAL FLUORIDE CONTENT: 0.15

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.45	1.32	1.31	1.08	1.23	
Jan. 17 - Jan. 30	1.45	1.40	1.40	1.09	1.24	
Jan. 31 - Feb. 13	1.15	1.18	1.17	0.85	1.00	
Feb. 14 - Feb. 27	1.30	1.25	1.29	0.95	1.10	
Feb. 28 - Mar. 13	1.27	1.32	1.23	1.03	1.18	
Mar. 14 - Mar. 27	1.15	1.28	1.25	0.90	1.05	
Mar. 28 - Apr. 10	1.17	1.32	1.25	1.12	1.27	
Apr. 11 - Apr. 24	1.38	1.32	1.26	1.22	1.37	
Apr. 25 - May 8	1.25	1.18	1.17	1.04	1.19	
May 9 - May 22	1.05	1.28	1.16	1.12	1.27	
May 23 - Jun. 5	1.17	1.38	1.31	1.36	1.51	
Jun. 6 - Jun. 19	1.28	1.22	1.29	1.18	1.33	
Jun. 20 - Jul. 3	1.08	1.50	1.15	1.15	1.30	
Jul. 4 - Jul. 17	1.03	1.20	1.17	1.21	1.36	
Jul. 18 - Jul. 31	1.20	1.25	1.29	1.41	1.56	
Aug. 1 - Aug. 14	1.10	1.22	1.24	1.34	1.49	
Aug. 15 - Aug. 28	1.13	1.15	1.12	1.60	1.75	
Aug. 29 - Sep. 11	1.23	1.25	1.23	1.65	1.80	
Sep. 12 - Sep. 25	1.22	1.28	1.29	1.47	1.62	
Sep. 26 - Oct. 9	1.17	1.27	1.23	1.48	1.63	
Oct. 10 - Oct. 23	1.24	1.28	1.26	1.45	1.60	
Oct. 24 - Nov. 6	1.20	1.32	1.31	1.55	1.70	
Nov. 7 - Nov. 20	0.97	1.02	1.12	1.92	2.07	
Nov. 21 - Dec. 4	1.13	1.20	1.19	0.75	0.90	
Dec. 5 - Dec. 18	1.15	1.25	1.21	1.32	1.47	
Dec. 19 - Jan. 1/88	1.33	1.38	1.33	1.15	1.30	
AVERAGE	1.20	1.27	1.24	1.25	1.40	
RANGE	1.0 - 1.4	1.0 - 1.5	1.1-1.4	0.8 - 1.7	0.9-2.1	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. James F. Archer
Secretary-Treasurer
Village of Treherne
P.O. Box 30
Treherne, MB
R0G 2V0

Dear Mr. Archer:

RE: 1987 FLUORIDATION CONTROL DATA FOR TREHERNE

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Village of Treherne.

All of the required 26 bi-weekly composite samples were submitted. All of these contained fluoride in concentration within the recommended range of 1.0 to 1.4 mg/l.

The Waterworks Superintendent, Mr. Gordon Clarke and his assistant, Mr. Gordon Turner have done an excellent job of maintaining the proper fluoride levels in the Treherne water supply. They have been a pleasure to work with.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Gordon Clarke/Mr. Gordon Turner

FLUORIDATION CONTROL RECORD - 1987

LOCATION: TREHERNE

FLUORIDATOR: W&T A-745 Ser# LDP 1603

CHEMICAL: NaF 4%

OPERATOR: Gordon Clarke

TEST KIT: Hach Filterphotometer

TELEPHONE: Office: 723-2044

NATURAL FLUORIDE CONTENT: 0.32

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	0.95	1.00	1.06	0.48	0.80	
Jan. 17 - Jan. 30	1.25	1.20	1.14	0.81	1.13	
Jan. 31 - Feb. 13	1.20	1.30	1.18	0.71	1.03	
Feb. 14 - Feb. [illegible]	1.15	1.25	1.21	0.63	0.95	
Feb. 28 - Mar. 13	1.28	1.35	1.17	0.73	1.05	
Mar. 14 - Mar. 27	1.20	1.30	1.26	0.77	1.09	
Mar. 28 - Apr. 10	1.30	1.20	1.22	1.03	1.35	
Apr. 11 - Apr. 24	1.35	1.25	1.28	0.95	1.27	
Apr. 25 - May 8	1.20	1.20	1.27	0.60	0.92	
May 9 - May 22	1.30	1.30	1.33	0.95	1.27	
May 23 - Jun. 5	1.23	1.30	1.30	0.77	1.09	
Jun. 6 - Jun. 19	1.30	1.40	1.31	1.04	1.36	
Jun. 20 - Jul. 3	1.30	1.25	1.23	0.81	1.13	
Jul. 4 - Jul. 17	1.35	1.25	1.27	1.01	1.33	
Jul. 18 - Jul. 31	1.28	1.35	1.29	0.91	1.23	
Aug. 1 - Aug. 14	1.25	1.40	1.32	0.87	1.19	
Aug. 15 - Aug. 28	1.27	1.35	1.28	0.91	1.33	
Aug. 29 - Sep. 11	1.06	1.30	1.22	1.12	1.44	
Sep. 12 - Sep. 25	1.25	1.35	1.34	1.02	1.34	
Sep. 26 - Oct. 9	1.45	1.35	1.31	0.86	1.18	
Oct. 10 - Oct. 23	1.40	1.35	1.32	1.17	1.49	
Oct. 24 - Nov. 6	1.29	1.35	1.31	1.06	1.38	
Nov. 7 - Nov. 20	1.24	1.35	1.31	0.82	1.14	
Nov. 21 - Dec. 4	1.29	1.30	1.25	0.85	1.17	
Dec. 5 - Dec. 18	1.35	1.30	1.29	1.02	1.34	
Dec. 19 - Jan. 1/88	1.40	1.30	1.26	1.03	1.35	
AVERAGE	1.27	1.29	1.26	0.88	1.21	
RANGE	1.0 - 1.4	1.0 - 1.4	1.1-1.3	0.5 - 1.2	0.8-1.5	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Donald A. Reid
Secretary-Treasurer
Town of Virden
P.O. Box 310
Virden, MB
R0M 2C0

Dear Mr. Reid:

RE: 1987 FLUORIDATION CONTROL DATA FOR VIRDEN

Attached, for review by your Mayor and Council is a data sheet summarizing the 1987 Water Fluoridation Program for the Town of Virden.

All of the required 26 bi-weekly composite samples were submitted. Of these, only 2, or 8% contained fluoride in concentration outside the recommended range of 1.0 to 1.4 mg/l.

I am aware that the town of Virden recognizes the range of 0.8 to 1.2 mg/l fluoride for its drinking water and as such, all submitted samples are acceptable by your standards.

The Canadian and Manitoba Departments of Health now recognize 1.0 to 1.4 mg/l fluoride as being the optimum for Canadian drinking water and you may wish to consider this as well. If you would like more information, I would suggest contacting:

Dr. Jack Purdie
District Dental Director, Western
Manitoba Dental Health
Brandon, MB
1-726-6139

...2

With regards to the operation of the fluoridation equipment, the enclosed data sheet indicates that the Waterworks Supervisor, Mr. Dave Penney and his staff of Dana Hurst and John MacDonald have done an excellent job. They have been a pleasure to work with.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Dave Penney
Mr. Dana Hurst/Mr. John MacDonald

FLUORIDATION CONTROL RECORD - 1987

LOCATION: VIRDEN

FLUORIDATOR: W&T A-745 Ser# LDP 813

CHEMICAL: NaF 4%

OPERATOR: Dave Penny

TEST KIT: Hach DR-100 Colormeter

TELEPHONE: 748-3074

NATURAL FLUORIDE CONTENT: 0.44

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	0.88	1.01	1.00	0.39	0.83	
Jan. 17 - Jan. 30	1.10	1.00	1.00	0.60	1.04	
Jan. 31 - Feb. 13	1.25	1.10	1.01	0.65	1.09	
Feb. 14 - Feb. 27	1.10	0.98	0.98	0.67	1.11	
Feb. 28 - Mar. 13	1.08	0.99	0.99	0.64	1.08	
Mar. 14 - Mar. 27	1.05	1.05	1.05	0.58	1.02	
Mar. 28 - Apr. 10	1.13	1.02	1.02	0.63	1.07	
Apr. 11 - Apr. 24	0.96	1.01	1.01	0.39	0.83	
Apr. 25 - May 8	1.10	1.10	1.10	0.70	1.14	
May 9 - May 22	1.10	-	1.05	0.49	0.93	
May 23 - Jun. 5	0.78	1.00	1.08	0.87	1.31	
Jun. 6 - Jun. 19	0.96	1.01	1.01	0.45	0.89	
Jun. 20 - Jul. 3	1.07	1.03	1.02	0.62	1.06	
Jul. 4 - Jul. 17	1.12	1.06	1.06	0.66	1.10	
Jul. 18 - Jul. 31	0.97	1.05	1.06	0.53	0.97	
Aug. 1 - Aug. 14	1.08	1.06	1.10	0.55	0.99	
Aug. 15 - Aug. 28	1.14	1.10	1.02	0.60	1.04	
Aug. 29 - Sep. 11	1.10	1.08	1.08	0.66	1.10	
Sep. 12 - Sep. 25	1.00	1.00	1.01	0.73	1.17	
Sep. 26 - Oct. 9	1.08	1.10	1.02	1.38	1.82	
Oct. 10 - Oct. 23	1.04	1.07	1.07	0.70	1.14	
Oct. 24 - Nov. 6	1.00	1.04	1.04	1.25	1.69	
Nov. 7 - Nov. 20	1.13	1.12	1.11	0.70	1.14	
Nov. 21 - Dec. 4	1.25	-	1.13	0.71	1.15	
Dec. 5 - Dec. 18	1.14	1.12	1.17	0.68	1.12	
Dec. 19 - Jan. 1/88	1.17	1.21	1.21	0.61	1.05	
AVERAGE	1.07	1.05	1.05	0.63	1.11	
RANGE	0.8 - 1.3	1.0 - 1.2	1.0-1.2	0.4 - 1.4	0.8-1.8	
% OUTSIDE LIMITS	8%					
NO. OF SAMPLES	26	24	26	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. Jim Dunlop
Director
Gimli Industrial Park
P.O. Box 40
Gimli, Manitoba
R0C 1B0

Dear Mr. Dunlop:

RE: 1987 FLUORIDATION CONTROL DATA FOR GIMLI INDUSTRIAL PARK

The attached data summarizes the 1987 Water Fluoridation Program for Gimli Industrial Park.

All of the required 26 bi-weekly composite samples were submitted. All of these contained fluoride in concentration within the acceptable range of 1.0 to 1.4 mg/l.

The Waterworks Supervisor, Mr. Dave Walker and his assistant, Mr. Rudy Tomchuk have once again done an excellent job of maintaining the proper fluoride levels for Gimli Industrial Park.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Dave Walker/Mr. Rudy Tomchuk

FLUORIDATION CONTROL RECORD - 1987

LOCATION: GIMLI IND. PARK

FLUORIDATOR: W&T A-747 Saturator

CHEMICAL: NaF 4%

OPERATOR: Rudy Tomchuk/Dave Walker

TEST KIT: Hach Spectrophotometer

TELEPHONE: 642-8420

NATURAL FLUORIDE CONTENT: 0.43

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.08	1.11	1.16	0.52	0.95	
Jan. 17 - Jan. 30	1.14	1.08	1.13	0.52	0.95	
Jan. 31 - Feb 13	1.10	1.14	1.15	0.58	1.01	
Feb. 14 - Feb. 27	1.00	1.01	1.09	0.64	1.07	
Feb. 28 - Mar. 13	1.08	1.02	1.04	0.57	1.00	
Mar. 14 - Mar. 27	1.20	1.13	1.14	0.56	0.99	
Mar. 28 - Apr. 10	1.13	1.10	1.11	0.57	1.00	
Apr. 11 - Apr. 24	1.03	1.15	1.06	0.54	0.97	
Apr. 25 - May 8	1.00	1.02	1.09	0.44	0.87	
May 9 - May 22	1.05	1.01	1.07	0.51	0.94	
May 23 - Jun. 5	1.00	1.05	1.11	0.55	0.98	
Jun. 6 - Jun. 19	1.10	1.11	1.14	0.67	1.10	
Jun. 20 - Jul. 3	1.05	1.10	1.15	0.50	0.93	
Jul. 4 - Jul. 17	1.20	1.05	1.16	0.56	0.99	
Jul. 18 - Jul. 31	1.15	1.19	1.17	0.61	1.04	
Aug. 1 - Aug. 14	1.13	1.18	1.10	0.65	1.08	
Aug. 15 - Aug. 28	1.17	1.14	1.16	0.50	0.93	
Aug. 29 - Sep. 11	1.23	1.20	1.15	0.60	1.03	
Sep. 12 - Sep. 25	1.20	1.18	1.19	0.64	1.07	
Sep. 26 - Oct. 9	1.25	1.17	1.19	0.74	1.17	
Oct. 10 - Oct. 23	1.25	1.20	1.20	0.69	1.12	
Oct. 24 - Nov. 6	1.15	1.18	1.20	0.60	1.03	
Nov. 7 - Nov. 20	1.06	1.16	1.17	0.60	1.03	
Nov. 21 - Dec. 4	1.13	1.16	1.15	0.60	1.03	
Dec. 5 - Dec. 18	1.18	1.18	1.17	0.73	1.16	
Dec. 19 - Jan. 1/88	1.15	1.18	1.18	0.65	1.08	
AVERAGE	1.12	1.12	1.14	0.59	1.02	
RANGE	1.0 - 1.3	1.0 - 1.2	1.0 - 1.2	0.4 - 0.7	0.9-1.2	
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	26	26	26	26	26	

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Mr. R. McRae, P. Eng.
Board of Commisioners
City of Winnipeg
Administrative Building
510 Main Street
R3B 1B9

Dear Mr. McRae:

RE: 1987 FLUORIDATION CONTROL DATA FOR WINNIPEG

The attached data sheet represents Provincial Laboratory's analyses of water samples received on a bi-weekly basis for fluoride analysis as well as calculated fluoride levels as received monthly from Mr. Tom Pearson.

Samples and data were received representing all 26 Manitoba Health fluoride sampling periods. It is my understanding that this does not comprise additional work or change in routine by the waterworks staff. Welcome to the Manitoba Water Fluoridation Program!

All the samples received contained fluoride within the recommended range of 1.0 to 1.4 mg/l with the exception of 4 periods from September 12 to November 6, when a hydrofluosilicic acid supply shortage necessitated an operational cut-back in fluoride feed.

.....2

Please extend my compliments to Mr. Arnold Permut, Mr. Don Newton and their staff who have been doing an excellent job of maintaining the fluoride level in the Winnipeg water supply.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.
c.c. Mr. Bill Carroll
Dr. D. Gemmell
Mr. Arnold Permut
Mr. Don Newton
Mr. Tom Pearson

FLUORIDATION CONTROL RECORD - 1987

LOCATION: WINNIPEG FLUORIDATOR: W & T

CHEMICAL: HaSiF6 (25%) OPERATOR: Don Newton

TEST KIT: Specific Ion Electrode TELEPHONE: 774-0589

NATURAL FLUORIDE CONTENT: _____

NO.	SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	MONTHLY FEED	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
1	Jan. 2 - Jan. 15/88	1.08		JANUARY	0.99		
2	Jan. 16 - Jan. 29	1.10					
3	Jan. 30 - Feb. 12	1.15		FEBRUARY	0.99		
4	Feb. 13 - Feb. 26	1.05					
5	Feb. 27 - Mar. 11	1.04		MARCH	1.00		
6	Mar. 12 - Mar. 25	1.05					
7	Mar. 26 - Apr. 8	1.10		APRIL	1.00		
8	Apr. 9 - Apr. 22	1.00					
9	Apr. 23 - May 6	1.05		MAY	1.00		
10	May 7 - May 20	1.05					
11	May 21 - Jun. 3	1.04		JUNE	1.01		
12	Jun. 4 - Jun. 17	1.05					
13	Jun. 18 - Jul. 1	1.10		JULY	1.01		
14	Jul. 2 - Jul. 15	1.03					
15	Jul. 16 - Jul. 29	1.07		AUGUST	0.99		
16	Jul. 30 - Aug. 12	1.00					
17	Aug. 13 - Aug. 26	1.04		SEPTEMBER	1.00		
18	Aug. 27 - Sep. 9	1.00					
19	Sep. 10 - Sep. 23	*(0.82)		OCTOBER	0.90		
20	Sep. 24 - Oct. 7	*(0.73)					
21	Oct. 8 - Oct. 21	*(0.50)		NOVEMBER	1.00		
22	Oct. 22 - Nov. 4	*(0.84)					
23	Nov. 5 - Nov. 18	1.00		DECEMBER	0.99		
24	Nov. 19 - Dec. 2	1.07					
25	Dec. 3 - Dec. 16	1.05					
26	Dec. 17 - Dec. 30	1.10					
	* OPERATIONAL CUT BACK DUE TO CHEMICAL SHORTAGE.						
	AVERAGE	1.06					
	RANGE	0.5 - 1.2					
	% OUTSIDE LIMITS	0%					
	NO. OF SAMPLES	26					

Manitoba

Health

Dental Health

3rd Floor
831 Portage Avenue
Winnipeg, Manitoba, CANADA
R3G 0N6

(204) 945-6685

File 7.2.1

February 1, 1988

Major J.R. Bishop
Base Construction Engineering Officer
C.F.B. Shilo
Shilo, MB
R0K 2A0

Dear Major Bishop:

RE: 1987 FLUORIDATION CONTROL DATA FOR C.F.B. SHILO

Attached for your review is a data sheet summarizing the 1987 Water Fluoridation Program for C.F.B. Shilo.

All of the required bi-weekly composite samples were submitted. All contained fluoride within the range of 0.8 to 1.2 mg/l.

Manitoba Health, along with Health and Welfare Canada, now recognize a fluoride concentration range of 1.0 to 1.4 mg/l. I have discussed this with your Waterworks Supervisor, Mr. Cliff Anderson and he feels there should be no problem in adjusting the fluoride levels accordingly. If you require further information please contact me at this office.

Mr. Anderson and his staff have done an excellent job of maintaining the fluoride levels in the C.F.B. Shilo water system in 1987.

Yours truly,

Jim Senka

Jim Senka, B.Sc.
Fluoridation Officer

JS/lk
Attach.

FLUORIDATION CONTROL RECORD - 1987

LOCATION: CFB SHILO

FLUORIDATOR:

CHEMICAL: Saturator 4%

OPERATOR: Cliff Anderson

TEST KIT:

TELEPHONE: 765-4723

NATURAL FLUORIDE CONTENT:

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.15					
Jan. 17 - Jan. 30	1.05					
Jan. 31 - Feb. 13	1.07					
Feb. 14 - Feb. 27	1.00					
Feb. 28 - Mar. 13	1.05					
Mar. 14 - Mar. 27						
Mar. 28 - Apr. 10	0.88					
Apr. 11 - Apr. 24	1.10					
Apr. 25 - May 8	0.78					
May 9 - May 22	0.90					
May 23 - Jun. 5	1.05					
Jun. 6 - Jun. 19	1.00					
Jun. 20 - Jul. 3	1.05					
Jul. 4 - Jul. 17	1.05					
Jul. 18 - Jul. 31	0.92					
Aug. 1 - Aug. 14	1.10					
Aug. 15 - Aug. 28	1.08					
Aug. 29 - Sep. 11	1.00					
Sep. 12 - Sep. 25	1.05					
Sep. 26 - Oct. 9	1.05					
Oct. 10 - Oct. 23	1.15					
Oct. 24 - Nov. 6	1.17					
Nov. 7 - Nov. 20	1.24					
Nov. 21 - Dec. 4	1.12					
Dec. 5 - Dec. 18	1.13					
Dec. 19 - Jan. 1/88	1.10					
AVERAGE	1.05					
RANGE	0.8 - 1.2					
% OUTSIDE LIMITS	0%					
NO. OF SAMPLES	25					

FLUORIDATION CONTROL RECORD - 1987

LOCATION: CFB GYPSUMVILLE

FLUORIDATOR:

CHEMICAL: 4% NaF Saturator

OPERATOR: Dave Hornick

TEST KIT:

TELEPHONE: 659-2611 ext. 316

NATURAL FLUORIDE CONTENT:

Power Plant - 373

SAMPLING PERIOD	TECH. SERV. COMPOSITE	OPERATOR COMPOSITE	AVERAGE DAILY	CALCULATED FEED	THEOR. DOSAGE	COMMENTS
Jan. 3 - Jan. 16/87	1.25					
Jan. 17 - Jan. 30	1.10					
Jan. 31 - Feb. 13	1.14					
Feb. 14 - Feb. 27	1.10					
Feb. 28 - Mar. 13	1.07					
Mar. 14 - Mar. 27	1.10					
Mar. 28 - Apr. 10						
Apr. 11 - Apr. 24	1.08					
Apr. 25 - May 8	1.00					
May 9 - May 22	1.05					
May 23 - Jun. 5	1.04					
Jun. 6 - Jun. 19	1.10					
Jun. 20 - Jul. 3	1.10					
Jul. 4 - Jul. 17	1.00					
Jul. 18 - Jul. 31		CLOSED OPERATION				
Aug. 1 - Aug. 14						
Aug. 15 - Aug. 28						
Aug. 29 - Sep. 11						
Sep. 12 - Sep. 25						
Sep. 26 - Oct. 9						
Oct. 10 - Oct. 23						
Oct. 24 - Nov. 6						
Nov. 7 - Nov. 20						
Nov. 21 - Dec. 4						
Dec. 5 - Dec. 18						
Dec. 19 - Jan. 1/88						
AVERAGE						
RANGE						
% OUTSIDE LIMITS						
NO. OF SAMPLES						

APPENDIX "D"

1987 FLUORIDE LEVELS

FLOODLINE LEVELS/1987

7 weeks starting-	Jan03	Jan17	Jan31	Feb14	Feb28	Mar14	Mar28	Apr11	Apr25	May09	May23	Jun06	Jun20
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	13
ALTONA	0.91	0.74	0.82	0.80	0.80	0.65	0.50	1.00	0.80	0.70	0.80	1.15	1.00
BALDUR	1.00	0.90	0.97	0.87	1.00	1.20	1.05	1.03	0.96	1.10	1.17	1.05	1.00
BERTLE													
BIRSAVAIN	1.42	1.40	1.06		1.20	1.47	1.30	1.00	1.00	0.97	0.97	0.80	1.05
BRANDON	1.25	1.30	1.25	1.25	1.17	1.10	1.15	1.15	1.05	1.10	1.23	1.15	1.00
CARMAN		1.00	1.20	1.47	1.17	1.00	0.96	0.83	0.91	1.05	0.97	1.00	1.04
CARTWRIGHT DAIRY	1.00	1.10	1.10	1.10	1.10		1.10	1.07	1.10	1.04	1.05	1.10	1.01
DARLIN						0.90	1.10	1.00	1.25	1.05	1.17	1.00	1.00
DELORAINE	1.00	1.05	0.97	1.07	0.95	1.10	1.10	0.91	1.05	1.04	1.05	1.22	1.45
ERICSON	1.12	1.00	0.00	1.20	1.00	0.00	0.90	0.96	0.73	0.90	0.70	1.10	1.00
GILLAM *	1.15	0.92		1.21	1.01		0.96	0.87	0.80	(4.50)	0.80	0.75	0.90
GIRLI (TRAN)	1.20	1.10	1.20	1.07	1.10	0.98	1.05	1.25	1.25	0.97	1.05	1.15	1.25
GLADSTONE *	1.15	1.14	1.12	1.30	1.20	1.17	1.21	(1.30)	1.10	1.10	1.17	0.95	1.22
HAMIOTA	1.00	1.00	0.97	0.93	0.00	0.04	0.95	1.25	1.15	1.20	1.27	1.45	1.12
HARTNEY	1.05	1.10	1.20	0.95	1.10	1.00	1.05	1.05	1.17	1.20	1.20	1.25	1.10
HILLARNEY	1.57	1.45	1.00	1.34	1.20	0.93	0.73	1.11	1.20	1.15	1.10	1.60	1.50
LAC DU BONNET	1.00	1.30	1.35	1.30	1.45	0.90	1.10	1.35	1.45	1.25	1.23	1.25	1.05
LWORDER	1.00	1.35	1.20	1.22		1.10	1.10	1.35	1.30	1.25	1.00	1.00	1.20
MELITA	0.77	0.26	0.26	0.67	1.30	1.25	1.25	1.20	1.30	1.15	1.15	1.15	1.25
MINNEDOSA	1.15	1.20	1.20	1.15	1.13	1.15	1.14	1.12	1.20	1.15	1.17	1.20	1.17
MORDEN	1.23	1.24	1.27	1.17	1.00	1.17	1.30	1.00	1.00	0.72	0.74	0.80	0.95
NEEPAWA	1.07	1.15	1.12	1.13	1.04		1.10	1.25	1.25	1.05	1.20	1.20	1.10
PILOT MOUND	1.20	1.30	1.20	1.40	1.20	1.17	1.23	1.20	1.10	1.10	1.12	1.25	1.20
PINAWA	1.04	0.97	0.95	0.00	0.06	1.00	1.00	0.96	0.85	0.90	1.20	1.15	0.92
PORTAGE LA PRAIRIE	1.25	1.17	1.20	1.20	1.23	1.00	1.30	1.00	1.00	1.05	1.00	1.00	1.27
RED RIVER										0.26	0.50	0.87	1.05
RESTON	1.20	1.20	1.20	1.07	1.10	1.30	1.10	1.15	1.25	1.15	1.20	1.10	1.20
RIVERS	1.42	1.70	1.70	1.90	1.55	1.00		1.03	1.42	1.50	1.45	1.35	1.20
ROBLIN	1.10	1.19	1.30	1.25	1.20		1.00	1.03	1.05	0.70	1.12	0.75	1.10
ROSSBURN	1.00	1.24	1.20	1.10	1.30	1.25	1.00	1.15	1.20	1.13	0.46	0.87	1.03
RUSSELL	1.42	1.15	1.12	1.07	1.15		1.30	1.15	1.20	1.15	1.04	1.00	1.15
STE. ROSE DU LAC													
SWAN LAKE					0.77	0.72	1.35	1.00	0.96	1.15	0.00	0.93	1.15
SOURIS	1.20	1.10	1.20	1.25	1.10	1.32	1.20	1.15	1.25	1.15	1.20	0.96	1.10
STEINBACH	1.20	1.20	1.27	1.30	1.17		1.10	1.10	1.15	0.93	1.17	1.12	1.00
SWAN RIVER	0.78	1.40	1.20	1.10	1.00	0.98	1.35	0.96	1.13	1.30	1.50	1.10	0.00
THE PAS	1.45	1.45	1.15	1.30	1.27	1.15	1.17	1.30	1.25	1.05	1.17	1.20	1.00
TREHERNE	0.95	1.25	1.20	1.15	1.20	1.20	1.30	1.35	1.20	1.30	1.23	1.10	1.10
VIRDEN	0.00	1.10	1.25	1.10	1.00	1.05	1.13	0.96	1.10	1.10	0.78	0.96	1.07
WINKLER	1.25	1.25	1.25	1.12	1.05	1.07	1.00	1.00	1.05	1.00	1.00	1.07	1.05
WINNIPEG	1.00	1.10	1.15	1.05	1.04	1.05	1.10	1.00	1.05	1.05	1.04	1.05	1.10
GIRLI PROVINCES	1.00	1.14	1.10	1.00	1.00	1.20	1.11	1.01	1.00	1.05	1.00	1.10	1.05
CFS GYPSUMVILLE	1.25	1.10	1.14	1.10	1.07	1.10		1.00	1.00	1.05	1.04	1.10	1.10
CFS RUID	1.15	1.05	1.07	1.00	1.05		0.00	0.01	0.78	0.90	1.05	1.00	1.05

FLOODLINE LEVELS/1987

7 weeks starting-	Jul04	Jul18	Aug01	Aug15	Aug29	Sep12	Sep26	Oct10	Oct24	Nov07	Nov21	Dec05	Dec19
PERIOD	14	15	16	17	18	19	20	21	22	23	24	25	26
ALTONA	1.30	1.10	1.22		1.10	1.15	1.00		1.15	1.15	1.17	1.21	1.25
BALDUR	1.15	1.10	1.05	1.00	1.05	0.97	1.20	1.00	1.00	0.87	0.91	1.04	1.12
BERTLE										1.00	1.13	0.96	1.02
BIRSAVAIN	1.15	1.05	1.17	1.50	1.32	1.30	1.40	1.30	1.40	1.34	1.45	1.47	1.41
BRANDON	1.35	1.15	1.05	1.31	1.21	1.05	1.12	1.20	1.40	1.14	1.18	1.22	1.20
CARMAN	1.03	0.92	0.90	1.00	1.00	1.05	1.17	1.13	1.10	1.09	1.21	1.09	1.10
DARLIN	1.05		1.11	1.06	1.15	1.14	1.00	1.01	1.00	0.98		1.00	1.00
DELORAINE	0.00	0.00	1.01	1.14	1.05	0.90	1.05	1.10	1.03	1.04	1.07	1.00	1.09
ERICSON	1.00	1.10	1.13	0.97	1.10	1.25	1.00	0.97	1.14	1.16	1.07	1.00	0.91
GILLAM *	1.05	1.00	1.05	1.45	1.05	0.77	1.05	0.94	1.10	0.97	1.07	1.01	1.00
GIRLI (TRAN)	1.10	1.00	1.10	1.05	1.07	1.06	1.01	1.00	1.00			1.04	1.22
GLADSTONE *	1.52	1.05	1.00	1.00	0.85	0.96	1.09	1.07	1.14	1.24	1.13	1.09	1.12
HAMIOTA	1.30	1.25	1.17	1.23	1.35	1.22	1.18	1.35	1.10	1.13	1.20	1.14	1.17
HARTNEY	1.42	1.07	1.60	1.22	0.05	0.90	0.00	0.03	1.15	0.95	0.04	0.96	0.60
HILLARNEY	1.25	1.25	1.13	1.10	1.17	1.15	1.12	1.15	1.14	1.04	0.90	0.96	1.15
LAC DU BONNET	1.45	1.10	1.50	1.37	1.19	1.42	1.27	1.05	1.30	1.25	1.09	1.10	1.25
LWORDER	1.10	1.10	1.25	1.22	1.23	1.20	1.35	1.45	1.35	1.29	1.50	1.27	1.10
MELITA	1.20	1.15	1.00	1.20	1.10	1.22	1.12	1.04	1.14	1.00	1.10	1.17	1.11
MINNEDOSA	1.30	1.30	1.22	1.30	1.14	1.30	1.34	1.42	1.30	1.25	1.20	1.19	1.26
MORDEN	1.25	1.20	1.20	1.22	1.19	1.22	1.21	1.15	1.12	1.13	1.17	1.17	1.25
NEEPAWA	0.97	0.92	0.91		1.23	1.15	0.95	1.12	1.30	1.10	1.03		1.25
PILOT MOUND	1.06	1.11	(2.00)	0.92	1.07	1.40	1.00	0.00	1.00	1.04	0.03	1.10	1.22
PINAWA	1.12	1.07	1.00	1.01	1.10	1.15	1.00	1.07	1.00	1.00	1.00	0.00	1.00
PORTAGE LA PRAIRIE	1.15	1.05	1.05	1.04	1.10	1.05	1.04	1.10	1.00	1.00	1.17	1.00	1.14
RED RIVER	1.20	1.25	1.23	1.17	1.21	1.35	1.45	1.65		1.11	1.11	1.13	1.00
RESTON	0.00	1.10	1.45	1.00	0.91	0.91		1.10	1.15	1.24	1.20	1.24	1.05
RIVERS	1.14	1.00	1.25	1.10	1.10	1.20	1.10	1.10	1.20	1.10	1.10	1.21	1.30
ROBLIN	1.16	1.10	1.23	1.13	1.10	1.20	1.20	0.65	1.20	1.13	1.22	1.17	1.01
ROSSBURN	1.20	1.10	1.15	1.00	1.10	1.05	1.10	1.10	1.01	1.24	1.10	1.13	1.21
RUSSELL	1.27	1.25	1.35	1.45	1.44	1.47	1.50	1.50	1.14	0.20	0.71	0.95	1.21
STE. ROSE DU LAC	1.16	1.00	0.92	0.70	1.21	0.92	1.10	1.10	(1.90)	1.05	0.93	0.92	1.00
SWAN LAKE	(0.60)		1.20	(1.14)	1.65	1.50	1.07	1.10	1.21	1.10	1.50	1.40	1.20
SOURIS	1.20	1.17		1.44	1.10	1.10	1.12	1.04	1.15	1.13	1.00	1.10	1.21
STEINBACH	1.25	1.10	1.25	1.21	1.24	1.25	1.57	1.00	0.95	1.10	1.12	1.30	1.20
SWAN RIVER	1.12	1.10	1.00	1.21	1.30	1.35	1.12	1.25	1.25	1.10	1.00	1.00	1.01
THE PAS	1.20	1.11	1.00	1.14	1.00	1.05	1.04	1.07	1.10	1.20	1.10	1.22	1.30
TREHERNE	0.95	1.25	1.00	1.00	1.25	1.15	1.00	0.95	1.00	1.13	0.00	1.00	1.07
VIRDEN	1.03	1.20	1.10	1.13	1.21	1.22	1.17	1.24	1.20	0.97	1.13	1.15	1.31
WINKLER	1.35	1.20	1.25	1.27	1.06	1.25	1.45	1.40	1.29	1.24	1.20	1.15	1.40
WINNIPEG	1.12	0.97	1.00	1.14	1.10	1.00	1.00	1.04	1.00	1.13	1.25	1.14	1.17
GIRLI PROVINCES	1.07	1.11	0.92	0.92	1.00	1.10	1.17	1.11	1.14	1.10	1.00	1.17	1.20
CFS GYPSUMVILLE	1.01	1.07	1.09	1.04	1.00	0.02	0.71	0.50	0.04	1.00	1.07	1.05	1.10
CFS RUID	1.00	1.15	1.13	1.17	1.21	1.20	1.15	1.25	1.15	1.06	1.11	1.10	1.15
	1.05	0.92	1.10	1.09	1.00	1.05	1.05	1.15	1.17	1.24	1.12	1.13	1.10

* INDICATES CALCULATED FLOOD AND OPERATOR'S READING WERE NORMAL, A (CONTINUED) SWELL IS INDICATED.